Gleanings in Bee Culture

"Created to help beekeepers succeed."

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Requeening

By W. H. Purser

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WHY:

There is only one primary reason for requeening a hive of bees, and that is to replace an **inferior queen.**

For practical purposes we might think of an inferior queen as one being (1) too old, (2) off color (3) too small, (4) crippled, (5) infertile or nervous.

To look at the other side of the picture we might say we like a queen that (1) produces large crops, (2) is gentle, (3) has **good** color, and (4) produces uniform offspring true to breed.

Now in order for a queen to produce large crops of honey she must lay many, many thousands of eggs. A hen is considered a cull if she does not have capacity to lay, so we think the same thing about a queen. If she produces she must have capacity. Then why should **constitution** not enter the discussion? The head and thorax should be large enough to take in air and food. The abdomen which contains most of the vital organs should be large enough to take in and assimilate large quantities of food and to produce eggs. The queen should have six good strong legs to carry her the many miles she travels over the combs. If she fails, a crop of honey may be lost.

Some signs of an old queen are: (1) a slick shining appearance, (2) worn wings, (3) shrunken appearance, and (4) irregular brood.

WHEN:

The system or type of beekeeping and the location will determine the best time to requeen.

By the system of beekeeping we mean whether or not the beekeeper is a migratory beekeeper or beekeeper who controls swarming, a back-yard beekeeper, commercial beekeeper, comb honey man or what not.

It has been my experience in the South, where the season is long and several honey flows come along, that **requeening every year pays.** As for the time of year many factors must be considered. Certainly the queens to be introduced or cells to be given should be done during the active season, which is roughly from frost to frost. Apiary requeening or requeening whole yards should be done a few weeks ahead of frost to insure a supply of young worker bees to go into winter quarters.

The ideal time to do over-all requeening is during a light honey flow in the fall when the weather is pleasant. In the northern part of this state small white aster blooms in late September and early October, and produces pollen enough to aid in getting queens accepted. The goldenrods, black sumac, and partridge pea give some stimulation in the central part of the state in the fall. The Mexican clover and goldenrods furnish some late food in the southern part of the state.

Producing extracted honey and moving queens from place to place will surely tell on a queen. It is just about possible to keep a queen on a good honey flow for nine months straight in this state by moving to two or three locations, in which case a queen would most likely be spent and would need replacing.

It is well to prepare bees for a certain honey flow like sourwood, gallberry, or vetch by giving them a good young queen 40 days in advance.

The hive should be requeened any time during the season if the queen fails (often noticed by the presence of drones in worker cells and a drop in population).

HOW:

Methods: Candy Cage, Nuc, Cell, Smoke, Immersion.

Finding the old queen: This is often a tiresome job. If some system is used the queen can usually be found within a short time. Smoke the bees as little as possible. Do not puff smoke between the frames and cause the queen to start running. Separate each unit and find freshly layed eggs. Remove the outside frames and divide remaining frames in pairs. Look over each frame carefully and set in empty hive body provided for the purpose. The queen will generally be found on the frames where there is laying space and where the eggs are still standing erect. The hardest job of all is to find a queen in the hive that has been set off in a super. If a virgin queen is present she will be much harder to find. If there is no brood it will be well to give a frame of young brood and test for a virgin. If no queen cells are built, in all probability a virgin is present and will be laying shortly. Driving the bees through a queen excluder will help to locate the queen in some cases.

Puffing smoke into the entrance and all the way under the frames will drive the queen out on top of the frames where she can be picked off readily.

Watching the action of the bees will help in locating the queen. After quite a lengthy search has been made the bees will start a march for the cluster where the queen is hiding. When the queen is found she should be killed by pinching then and there.

Candy Cage: The candy cage can be given with or without the attendant bees. In either case place the cage so that the bees can feed the queen through the wire screen and get to the candy to help release her. Drive a small nail on the side of the cage and hang the cage between two frames in the brood nest. If supers are on or if queen excluders are used, the cage can be laid on top of the frames screen down over the space between two frames. Put all equipment back in place. Giving a little feed will help insure acceptance with this or any other method.

The big disadvantage of this method is the loss in egg production while the queen is confined.

Nucleus Method: Possibly the safest plan of introducing a queen is by the nucleus method which is nothing more than removing the old queen and inserting a nucleus with young queen by making room for the nuc in the side of the second story, placing a sheet of newspaper between the two colonies.

Cell Method: The cell method is used by many beekeepers and has its advantages. Select a desirable breeder and remove her by setting her to one side of the hive with some bees and brood. The bees to be requeened should be made queenless at the same time. When all cells are eight or nine days old the cells should be removed from the hive to be requeened and a cell given from the breeder queen.

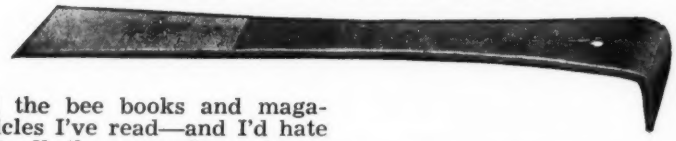
Immersion Method: The immersion method works very well. Simply baptize the queen in liquid honey, spray the bees with sugar syrup, and drop the queen on top of the frames. The bees will clean her up and she will often be laying within 24 hours.

Smoke Method: The smoke method is also very simple and is being used very successfully. Remove the old queen and after 24 hours give the bees a good smoking without removing any equipment. Open the cage and let the queen run in and give some more smoke, stopping up the entrance for about a minute with grass or paper or an old sack. Do not molest for five days.

In all cases the hives should be left alone for five or six days.

When Nothing Else Works, Try the Hive Tool

By Hervey Roberts, Kirkwood, Missouri



In all the bee books and magazine articles I've read—and I'd hate to count all those words—not one writer has ever cut loose with a cheer for that most useful article, the hive tool. Cheer? There's never been even a feeble "yip". So it seems high time someone pointed out the versatility of that humble hunk of iron.

We got our first hint of what the hive tool can do from the storm sash. Have you ever tried to take down storm sash in April when the rains have swelled them to a weld with the window frames? It's as nasty a fight as you can find on the place, and I used to be boiling mad before I even started. I don't know whether it was inspiration or desperation, but in one of those annual battles I hammered a hive tool between the frame and sash, yanked viciously, and out came the sash. I still hate storm sash vindictively, just as a hangover, but now I can sneer at them as the hive tool flips them out one by one.

That episode alone was enough to make me feel kindly toward the hive tool. But one day the plaster around the bathtub started to rot and a small piece had to be removed. A trowel was too large for the cramped space, but again the hive tool came to the rescue. Between the straight and angle ends it was no trouble at all to clean out the rotted material. Then when I put on the patching plaster the tool became a miniature trowel for the hard-to-reach places, and after the plaster was dry the angle end quickly smoothed off some rough spots.

Next, an old aquarium started leaking, and it was obvious that the cement had to be replaced. Now aquarium cement is tenacious stuff and some parts of an aquarium are as awkward to dig at as a back molar. But I was learning—the two ends of the hive tool removed the cement as neatly as they had taken out the plaster.

By now I was really sold on the hive tool. So when a wall in the basement cracked and started leaking, I didn't hesitate. After the outer part of the crack was chipped larger with a cold chisel, the hive tool was used to clean the crack under the chipped part. Then the tool forced a cement-iron filing waterproofing into the deep parts of the crack before the chipped line was filled via trowel. The combination worked beautifully, and the crack stopped leaking.

From the basement it was no trick to move to the garage. As everyone knows, on the older model cars one usually removes the hub caps with a screwdriver. But designers of the new models have seen to it that life is no longer simple, and all a screwdriver does is put holes in the plastic fake white walls. I learned that the hard way. Well, we can't get rid of the hole we already have in one plastic. But we won't get any more because the hive tool removes hub caps as quickly and easily as if made especially for the job.

We've used the hive tool for scraping blistered paint in places too narrow for a putty knife. We've used it for scraping mud off boots. It's far better than the usual screwdriver for opening wooden packing cases, or for almost any job calling for that small pinch bar that nobody has when it's needed. It has pinch hit, sometimes successfully, for a right-angle screwdriver. In fact, we now have a family wisecrack that "if nothing else works, try the hive tool!"

This spring we topped things off by giving a hive tool to some friends for a wedding present. Our square dance group gave them 74 mousetraps at the same time, but even so, the hive tool was three-fourths serious. And the newlyweds, who thought it was wholly a gag, have since told us they are surprised how often they use it.

Oh, yes. We also use it for working with the bees!

From the Apiary Note Book

By Clarence Tontz, Elsinore, California

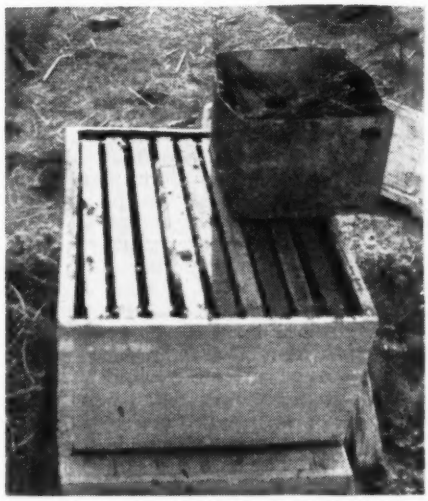
Here in California we have a honey plant that throws off a strong, pungent odor which to some people is rather disagreeable. But to me this plant, known to most beekeepers as blue curls (due to the shape of the blossoms), is a harbinger of autumn—my favorite season of the year. Blue curls (**Trichostema lanceolatum**), also known as vinegar weed, camphor weed, turpentine weed, and flea weed, starts yielding in August and continues until frost. It is usually regarded as one of the best fall honey plants in California. However, our past several years of light rainfall has greatly nullified the honey yield from any fall honey plants. The blue curls plant is very hardy and with some encouragement in the way of moisture it should yield some of its very white honey. You can cut this plant off with a hoe and its blossoms will continue to yield nectar to bees for several hours.

* * * * *

In 1948 we received only around 10 inches of moisture (the sage and wild buckwheat ranges usually require 18 to 24 inches for a fair flow). Most of it came down slowly and soaked into the ground. Our local yards on the mountain sage yielded the best crop since '43. These bees were operated for chunk and cut-comb honey (I pack and sell both) exclusively. I gave up trying to produce regular comb honey in sections since our flows here as a rule are often light and drawn out and when they are heavy they may be interrupted by a few days of cold weather.

Cut-comb production in shallow supers is simpler, yet you've really got to "ride herd" on these colonies. You do not want strong colonies for cut-comb production. No, you want super-duper colonies that are not crowded but squeezed into the single hive body and with just enough shallow supers so that there is standing room only. You want a good excluder between the single brood chamber and the shallow supers since the queen will naturally want to go up and put her trade mark on the combs.

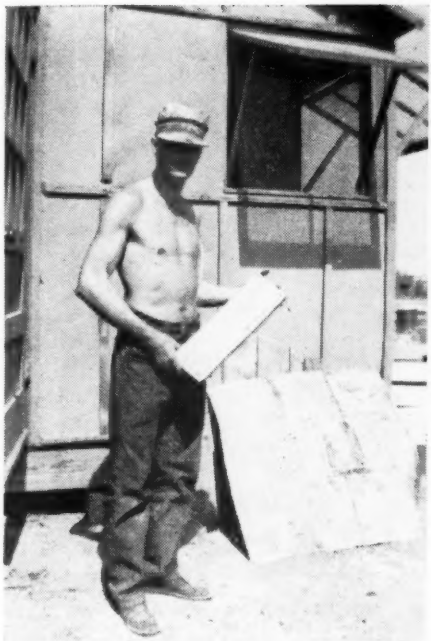
That same year I produced some beautiful white frames of honey on a heavy orange blossom flow without the use of excluders, but on the "brush" locations where the flow is more drawn out you run the danger of having some nice comb honey ruined in a short time with brood. Even with extracted honey production it is not a good idea to be without excluders on the sage locations. During a lull in the flow, as usually happens almost every season, many queens move up into the surplus supers so that when you go to take them off for extraction you have a lot of extra work sorting out the honey combs containing patches of brood.



Feed them heavily in the fall if you want them heavy in the summer. This open feeder for sugar syrup has brush running down to the bottom of the can to enable the bees to crawl out. It is simply set on top of the frames and surrounded by an empty hive body.

Another good reason for having extra powerful colonies for good cut-comb production is that if they are less crowded they seem to carry more pollen up into the tender combs with the idea, perhaps, that there will be plenty of room in the shallow super for all the honey they can produce and some room for the queen also.

With the colonies so terrifically crowded they naturally will be inclined to get the swarming fever, especially if the flow is not too



L. Lambert poses with a snow-white comb of white sage honey

If a colony is below par at the beginning of the flow we are rather drastic in uniting. We use the double newspaper method with a few holes punched in the paper with a lead pencil. This paper was gnawed out in 24 hours.

heavy. I don't have any tricks for preventing swarming except to destroy the swarming queen cells every seven or eight days. In extracted honey production swarming can be reduced by giving the colonies plenty of room before they need it. In cut-comb honey production you are forced to do things that induce swarming. To get a crop of cut-comb honey you've got to keep a powerful force on the job and working. You cannot keep them disorganized and demoralized with fancy swarm-preventing tricks.

Swarm Goes to Work in Earnest

Does a colony sulk that has constantly been prevented from swarming and is crowded? I haven't found it so. This summer one of my powerful back yard colonies had one big ambition — to swarm. Every week I destroyed their queen cells. They couldn't be discouraged. However, they were keeping right up with some of the other colonies which hadn't started any cells. Finally, on the same day that I destroyed their cells they swarmed regardless. I checked the colony again to make sure I hadn't missed a cell. I hadn't. I brought the huge swarm back and dumped them in front of the hive from which they had swarmed a few hours earlier. They meekly went in and got down to business. They raised no more cells and produced 150 pounds of cut-comb sage and wild buckwheat honey. See picture above at left.

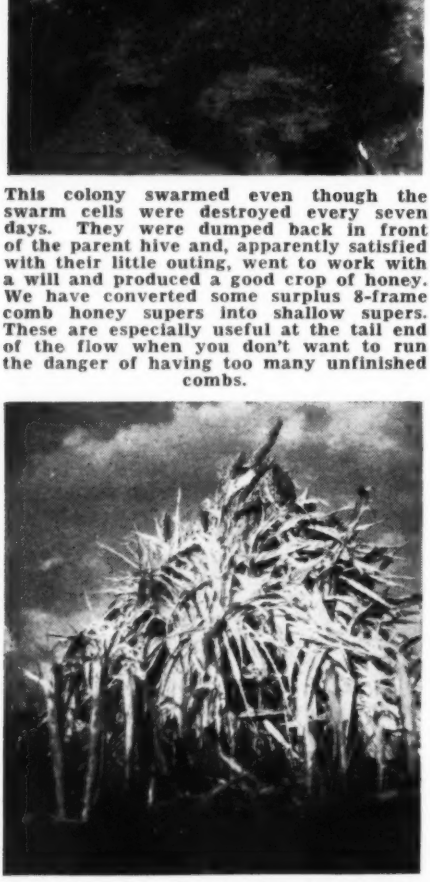
In cut-comb honey production I add the shallow supers of full sheets of thin super foundation a little faster when the flow is beginning and I am awful stingy with the supers as the season progresses. When the sage flow starts and it appears that it is coming in fairly steadily I add a second super after the first one is around a third full. The multitude of young bees might as well be put to work drawing out the foundation into combs to catch the honey as it comes in.

To induce the bees to cap the cells over thoroughly I remove the completely capped combs from the center of the super and exchange them with combs on the outside. Even though bees are crowded, they often neglect to completely cap the combs next to the super wall.

* * * * *

E. A. Schnetler, a beekeeper from South Africa who produced over a ton of honey from a single colo-

This colony swarmed even though the swarm cells were destroyed every seven days. They were dumped back in front of the parent hive and, apparently satisfied with their little outing, went to work with a will and produced a good crop of honey. We have converted some surplus 8-frame comb honey supers into shallow supers. These are especially useful at the tail end of the flow when you don't want to run the danger of having too many unfinished combs.



The fodder is in the shock and the honey is in the can. Autumn—time for more visiting, more fairs, more beekeepers' meetings. In short, THE time of year.

A two-story colony that has just had its upper chamber removed in preparation for the honey flow which is just beginning. All the brood possible is put down in the single chamber. The extra combs of brood and honey are given to a weaker colony which I call a nurse colony. As the season progresses and much of this brood hatches out in the nurse colony several pounds of bees are occasionally dumped in front of one of the chunk honey colonies. This little trick alone will boost your honey yield considerably.

ny, may well lead the way for beekeepers everywhere to increase the yield from their bees despite drouth, cold weather during the flows, and disappearing honey pastures. What we need is fewer hives and more bees in them.

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Some years ago business men, tired of some of their brethren pulling shady deals, formed an organization called the Better Business Bureau. They exposed illegal business methods and did a good job of raising the standards of business in general. It appears that beekeepers and honey packers could do some policing within their own ranks. Several times a week we have honey customers who tell how they bought, to use their own expression, "doped-up honey"; "honey mixed with molasses"; "watered honey"; and "dregs from the bottom of the tank". Money spent for honey publicity is made partly useless by operators whose chief aim is to make a fast dollar at the expense of the industry.

How NOT to Do It

By E. Worth, Sutherland, Saskatchewan

Apparently the worst thing that anyone can do who wishes to increase the per-capita consumption of honey is to allow a sample of low grade honey to reach the consumer. It may be just as unwise to give away such honey as to sell it. This lesson was borne forcibly to me by a recent experience, of which I must unburden myself at once.

I think every beekeeper should retail a portion of his honey each year in order to keep his hand in, so to speak, and give himself a chance to understand how the public reacts to different approaches, different prices, and different flavors and grades of honey. I have followed my own advice for many years now, and yet find myself learning something new each year. If the lesson I learn is not new, it is one that I am likely to forget and, it seems, one that any person is likely to forget—so strange is human behavior.

I was soliciting sales one day, and at one house I got such an emphatic "No" that I was surprised. I still think that the emphasis can be explained only partly by the low grade honey she had on hand, and more by the anti-suggestibility that town and city people develop on account of the nuisance of so many peddlers.

"Oh, NO," said this woman, "I have lots of honey on hand, enough for more than a year. We got it from our relatives in the country, and they are likely to supply us every year. So, we don't need YOUR honey."

A year later I was on my rounds again, and called at this house even though the impression of the reception the year before was still strong. This time I was not surprised when I got the identical answer that I had got before.

A few days later I was chatting with her husband, who happens to be one of my friends, in their house, his wife being absent. Men and women have very different buying habits and very different attitudes toward people who are merely trying to make a living by giving service. Women often make that — merely that—appear to be the next thing to a crime.

This man knew that I was a beekeeper, of course, and often finds the topic of beekeeping of interest. He said, "I want to show you a sample of honey and you tell me what is the matter with it."

I agreed, and he went and fetched an eight-pound pail that was about half-full.

When I opened it I found that the honey was not really very poor. It was evidently capping-melter honey originally of the very finest grade of sweet clover, but slightly discolored by the process of melting. The heat of melting had destroyed the fine granulation, and the granulation that had since occurred was very coarse and by no means complete. If these people had known even enough to melt it they would have had a pail of liquid honey that was only a little lower in grade than the best honey available. The coarse granules were not attractive and it seemed that something was mysteriously wrong with the sample.

However, the point I want to make is not so much that these people are representative of the public in knowing absolutely nothing about honey, but that the beekeeper who gave away the honey made a mistake—two mistakes, in fact. The first was in failing to seed the honey he had melted with fine granules. That alone would have made the sample one of sufficient quality that he could have sold it, and that at a small discount only, and so would not have had the loss of having to give it away. The second mistake was in failing to understand that poorly-processed honey given away can do as much to disgust the public with honey and ruin the market for years to come, as can honey sold.

I am certain that the family of whom I am writing has bought no honey at all for over a year, probably nearer two years, and that they have eaten no honey except the part of the pail that had been given them. Why had they bought no honey? The answer is perfectly obvious — they HAD some honey, enough to last, at their current rate of consumption, three or four years, or more. What purpose was that pail of honey serving? None at all

(Continued on page 515)

The Hodgson Capping and Comb Melter

By H. H. Root, Medina, Ohio

The solar wax extractor is a great and convenient time saver and the saving of wax from cappings, burr comb, and scrapings quickly pays for the equipment. Imagine a series of sloping trays somewhat like the tray of a solar wax extractor, all inside a steam-heated, insulated oven, and you have the principle of the Hodgson wax melter. The oven is built of wood with a metal lining. When the door is opened only the ends of the trays can be seen. These are long shallow trays of metal, fitted with a wooden framework which supports heavy poultry netting. In use, the netting is covered with burlap. The trays are of different lengths, the lowest one being the longest, the upper one the shortest. Above the oven and close to the window, so it can be filled from the outside, is a large hopper into which the cappings are dumped. They fall onto the inside ends of the trays. Just above, and running across the entire width, each tray end has a steam pipe into which holes are drilled. Steam is delivered to this series of pipes through the diagonally-placed manifold located outside the oven. The steam issuing from these holes in the pipes across the trays quickly melts the cappings or combs, the bits of cocoon and other debris gradually spreading out over the burlap, supported by the screens on the wooden frames on the trays. When the door is closed the whole contents of the oven get hot from escaping steam so the melting is rapid and thorough.

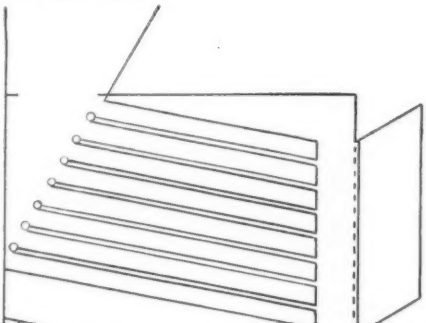


Diagram showing side elevation of Hodgson steam melter for dry cappings. Capacity over a ton in a half-day. The trays are made of metal over which heavy screens are supported, covered with burlap. At the top of each tray is a cross pipe with small holes drilled to direct the steam at an angle down the trays. The cappings are shoveled into the hopper at upper left. The space under the trays is to hold the melted wax until it is drawn off at the gate. The door at the right is wide enough to permit the removal of the trays.

Fig. 1.—Front of Hodgson capping melter with the door open to show the ten sloping trays. Above each tray at the back is a horizontal pipe with holes drilled to blow steam onto the upper end of the tray. The oven and its contents are thus kept hot.

The wax flows from the front ends of the trays, just inside the door, and falls down to the bottom of the oven from where it escapes through a pipe into a suitable container.

The outfit requires little attention aside from the keeping up of steam

in the 6 h.p. boiler, and since the melting is done after the extracting is over, comparatively little honey is lost in the well drained cappings.

In time the burlap becomes clogged and can then be replaced. Mr. Hodgson sometimes cleans it but more often disposes of it, replacing with clean burlap. If desired, the burlap with adhering refuse can be saved and pressed but Mr. Hodgson's time is ordinarily worth too much for attempting to recover the little wax left in the refuse on the burlap.

Mr. Hodgson's description of the way of using the melter follows:

The melter consists of a metal-lined box that is reasonably steam tight with a door wide enough to allow trays to be slid in. The angle of the trays should not be so steep as to allow refuse to run out the lower end. Each tray consists of metal over which a screen is supported and the screen is covered

Fig. 2.—The upper tray pulled out and leaned against the front of the oven, the next tray partly pulled out.

with burlap. At the upper end of each tray is a cross pipe with many small holes drilled in it to allow the steam to blow diagonally across the upper end of the tray. The holes are so placed that they strike the cappings at an angle permitting the melted wax to run to the tray immediately below it. The lower tray extends to the back end of the melter. Each tray is about two inches shorter than the one beneath. With this arrangement I find that each tray receives an equal amount of

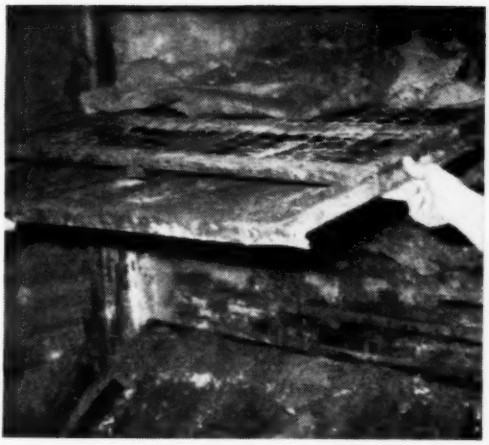


Fig. 3.—In the shallow metal tray rests a wooden framework covered with heavy netting which in turn supports the burlap.

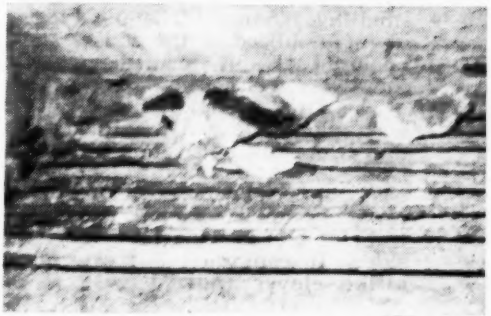


Fig. 4.—Looking down into the large hopper from above. The inside ends of the trays are not located one above the other but are staggered, the trays being of different lengths, spaced about two inches apart. The cappings and combs falling onto the ends of the tray are quickly melted by jets of steam.

Fig. 5.—Steam manifolds into which the pipes are screwed, each drilled with holes to let steam blow onto the ends of the tray. Above the oven proper is the hopper, close by an open window through which the cappings can be dumped from the outside.

material. It is not desirable to melt the wax before placing it in the hopper.

One person is kept busy shoveling cappings into the hopper while another fires the boiler and runs off the melted wax. After this melted wax comes from the melter it is allowed to settle in a tank and the clear wax is then run into the molds. I use a large barrel. I have melted over 2500 pounds of wax and had it in barrels within five hours, but with such a large quantity it pays to keep the steam turned on the melter for a few more hours to get the final bit of wax out.

To melt the combs, remove all the trays except the lower one and hang the combs in the melter. They melt in just a few minutes' time.

To clean the melter remove the trays and either clean the burlap or put fresh burlap on for the next time.

The main expense of the outfit, of course, is in the boiler but a boiler is very useful for making syrup and I do not see how any commercial beekeeper can get along without one.

What Bees Work On, and When

By Hugh Stevenson Tignor

Today is June 15; the place is Central New York. My bees are working in comb honey supers, producing what is euphemistically known in the market as "clover honey". Several days ago they were flying both north and south from the hives in about equal proportions, gathering, I hope, honey from the locusts, one of nature's sweetest-smelling blooms. Then 90 percent of them shifted to the south, and at noon I set out to discover what they were working on.

The first audible buzz I located was among the red paintbrush, and they were taking nectar, not pollen, from it. A patch of blackberries, past the peak of its bloom, had a few bees on it. Then I traversed a tract of weeds on an adjacent hillside. It contained a scattering of alsike clover (how I wish it had been a tract of alsike clover with a scattering of weeds!). Here were a few more nectar suckers. There was a more noticeable scattering of yellow sweet clover and this was being visited by still more bees. And then came a sizable patch of vetch which had a hum equal to, or surpassing, the paintbrush.

What am I going to tell my friends those luscious sections of early honey came from? (I'm wondering what it is going to taste like.) And what does this do to the stock axiom that honey bees work on only one variety of plant at a time? If they wanted to work on paintbrush exclusively there's plenty of it around; and if they wanted to work on vetch there's enough of it within a mile radius to match the bluebonnets of Texas.

Plainville, New York

Refreshingly Cool

By Mrs. Benj. Nielsen

Honey crunch ice cream.—Photo courtesy Kellogg Co.

Aside from cool sparkling water there is no thirst quencher to compare with lemonade—honey sweetened, of course. In the cool of the morning, squeeze the juice from a number of lemons, and sweeten to taste with honey at room temperature. You may add water at this time, or keep this concentrate on hand in the refrigerator, adding water and ice cubes as you serve. Thin wafers make a delightful, not-too-heavy accompaniment. And with a batch of this beverage on hand you will never be embarrassed when unexpected callers drop in. The honey content points up the refreshing fruit flavor and supplies quick energy so sorely needed during blistering days of enervating heat. Choose one of those gayly decorated plastic pitchers for this beverage—its easy and compact to store in the refrigerator, attractive enough to serve from, and light to lift and manipulate when pouring.

If you like to be festive and splurge a bit, try this delightfully flavored pink beverage:

One quart ripe currants, 1 quart red raspberries, 4 cups water, ½ cup honey, juice of 3 lemons, and 1 pint chilled ginger ale.

Wash, drain, and crush currants and raspberries. Add 1 cup of the water and cook until currants become white. Strain and add honey, lemon juice, and remaining 3 cups water. Mix thoroughly and chill. When ready to serve, combine with ginger ale. Serve in ice-filled glasses. Serves 6 to 8. Canned fruit juices may be used.

Honey Crunch Ice Cream

Three cups oven-popped rice cereal, ⅓ cup brown sugar, ½ cup nutmeats, 3 tablespoons butter, 2 eggs, ⅓ cup honey, ¼ teaspoon almond flavoring, and 1⅔ cups evaporated milk.

Crush rice cereal into fine crumbs; mix with brown sugar and nutmeats. Melt butter in heavy frying pan; add cereal mixture. Cook, stirring constantly, until sugar melts and caramelizes slightly. Cool and crumble. Beat eggs with honey; add flavoring. Fold in whipped evaporated milk. Pour into refrigerator trays and partially freeze. Mix with ¾ of crumb mixture. Pack in refrigerator trays or in paper cups. Sprinkle remaining crumbs over top. Freeze. Yield: 2 quarts. Note: Thoroughly chill evaporated milk before whipping. Then pour into cold bowl and whip rapidly with cold beater until stiff.

Honey Maple Walnut Ice Cream

In top of double boiler combine ¼ cup honey, ½ teaspoon gelatine, and 2 tablespoons flour. Add 1 egg, ¼ cup maple syrup, and ½ cup milk. Cook over boiling water until thick. Chill thoroughly. Whip 1 cup evaporated milk which has been chilled thoroughly. When very thick fold in ¾ cup walnuts and the chilled honey-maple mixture. Pour into freezing tray and freeze.

Honey Apricot-Lime Ice

Combine two 12-ounce cans apricot whole-fruit nectar, 1 can water measured in juice can, ½ cup honey, ½ cup lime juice, and a pinch of salt.

Stir until honey dissolves; chill. Pour into 2-quart crank-turned freezer. Freeze. Makes 2 quarts.

Aurora, Nebraska

The Value of Remembering Individual Colonies

By Wayne Keller, Lakeside, Nebraska

Did you ever become lost in a bee yard? Yes? Then distinctive hive arrangements should be valuable to you as well as to the bees. Follow the diagram I have drawn and I shall explain the value of the arrangement it shows.

Grouping Colonies: To put more than two hives in a group is to confuse bees within the group. Even a bee can count to two, though it be only to distinguish left from right. Therefore, two hives should constitute a group. With a choice of only two, a bee can easily decide which hive in any pair is its own. Some degree of grouping helps conserve space. **Single** colonies lack distinctive character, even if staggered in the row and faced at different angles. Distance of separation may help, but the extra space may as well be occupied by nonconfusing hives.

Spacing Colonies: Spacing does not solve drifting, especially where there is possible **confusion between similar spaces.** The ability of a bee (or a beekeeper) to find the correct one of many identical hives depends on judging from outside the apiary the distance to and location of the hive, and learning that spot by the surroundings, near or far. Bees are highly developed in their ability, but when they are young they become confused. Old bees are the same when moved. Having drifted once, they apparently become mentally blocked by confusion and thus are hindered from eventual correction, and may drift again and again. A completely filled yard of **distinctively** placed hives (as well as other objects) is as good as spacing.

The compact arrangement is to our advantage. The first drift of a bee is between hives near each other, so **some** space is a necessity, especially under windy or wintry conditions which interfere with normal (average) orientation of the young on their first flight. Therefore, **there must be adequate spacing,** no matter how efficient the arrangement or distinctive the entrances. Where **diseases** of any kind are prevalent this is especially true.

[Since writing the above article a colony in the position number 25 in the diagram became badly diseased. **Neither number 24 nor 26** was affected. No other disease was found.]

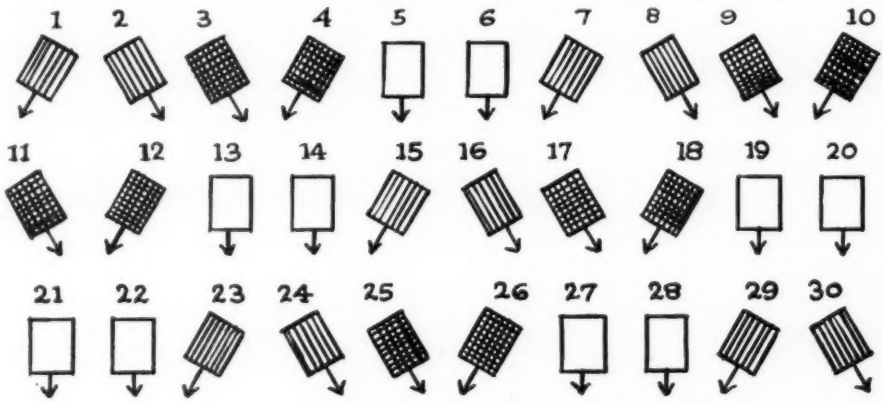
Lining Colonies: Colonies should not be set out in a single long row. There is too much confusion as bees view the row dimly from a distance. If they can get close to the **whole** yard before deciding where to land, they can easily find their own home. Their vision is not adapted to view a long row at close range. Haven't you seen bees hesitantly veer left and right in front of a long row of hives trying to decide just which is theirs before settling in with their loads? By arranging a compact yard this trouble is obviated. All equipment is handy without your wasting time moving it and hunting out colonies needing attention.

Last of the advantages of a compact yard over a long one is the ease of fencing. The only possible disadvantage is the accumulation of vicious bees about the laborer. He can not go to another part of the yard to work. That disadvantage is turned into an asset, for he will exercise more care and thus speed his work. If the hives are all together, they will be better protected from pilfering, but will do less harm to animals. Stock soon learn where is the seat of the complaining, stinging insects, and stay away.

Facing colonies: In the arrangement I advocate, no near pairs of hives appear alike, nor does one hive of a pair look like its counterpart in either of the next two pairs. Also each row appears different, for similar pairs of another row are not in alignment—that is, not in the same relative position from the end of the row. Entrances should face the same general direction for convenience. For winter it is good to have the entrance on the sunny side. Bees cluster there, whether for warmth or fresh air. If a top (single) entrance is used, it is imperative that the bulk of the honey be near, otherwise too many of the bees will be induced to cluster away from it. By having the entrance centrally located from side to side, or **in front of the comb spaces,** the cluster will not be drawn to one side to starve. This factor should be considered carefully if **side** en-

trances are used on colonies with different degrees of southern exposure in winter.

Numbering Colonies: It should be an advantage to number each row from left to right, ending each row with a multiple of 10. However, if someone prefers the method of numbering used in identifying sections in a township, he can remember the colony locations in that way. Colonies may be memorized within the yard—a decided advantage, even in uniform management—and the beekeeper need never become lost in his work. He knows what each colony is. Its position marks it and furnishes an association to remember its past condition. If any is not up to par, he "knows its number". He can **learn all his yards** in the same way, depending on yard identities, to remember which **yard** has a symptom in a certain **colony.** The number occupies secondary attention; the colony is the thing remembered. Its number can be learned quickly by a glance at the chart.



Proposed Colony Arrangement: Entrances face south. Only three group facings are used: the parallel (5 and 6); the toed in (3 and 4); and the toed out (1 and 2). Each colony may be worked without disturbing another, and the operator always knows where he is by the way the colony sets and its location in a particular row.

How Many Beekeepers Have Seen a Queen Mate?

By P. E. Braun

I have kept bees for about 25 years and never saw a queen mate until today. I probably will not see it again. I was working a yard of bees that is located under some trees in perhaps too dense shade. Noticing that it was becoming darker and that the bees were tumbling into the hives I thought I had better step out in the open and check on the weather.

On stepping into the open I saw black storm clouds gathering in the north and west. I sat in the truck and was looking up sighting on the clouds to see if they were coming in my direction. The truck was parked in front of the line of hives and the bees were coming past by the thousands.

Against a patch of blue sky I noticed what first looked like an especially large bee flying slowly in. As it got closer I could see that it was a queen and drone. Apparently the queen was flying very slowly with the drone hanging on underneath. After four or five seconds the drone could be seen falling towards the ground, the queen proceeding toward the line of hives.

Thus is the cycle of bee life carried on.

Cairo, Nebraska

Beekeeping in Norway

By Capt. Th. Thommessen
Horten, Norway

An apiary in Norway

In my youth I read in an English book the following sentence: "Wales is a country in many respects very peculiar."

And now when I started to write this modest article on Beekeeping in Norway I remembered those words. In my opinion they might as well be written about Norway and at all events they seem especially true in what concerns beekeeping.

Because—if you look at a world map you will notice that our country is the land farthest north in Europe, "the land of the midnight sun". In direction, south to north, it stretches from the 58th to the 71st degree N. latitude. If you could turn Norway around, its southern point, the North Cape, would reach far down in the Mediterranean Sea. Or, if you placed it on the American map it would have its southern point far up in Labrador in Canada and its northern point along the North Coast of Baffinsland or north of Disco Island on the west coast of Greenland.

And while beekeeping under these latitudes may seem impossible anywhere else we have the Gulf Stream flowing all along the Coast giving our country a very good and relatively mild climate. And the bees thrive well in the southern half of the country up to 63 degrees N. latitude. But farther north the conditions are too difficult—the winter season too long.

We will therefore now look at the southern part of the country with conditions for beekeeping. There we find them very different, the west coast very mild, but as to rainfall the eastern districts are often too dry. However, those eastern districts always give the biggest crops. The Southeastern Coastline is well adapted for beekeeping. The season with intense light and long days lasts from May to September. About the first of October the bees have to be wintered in.

Cellar wintering is very seldom practiced. The bees generally are wintered out-of-doors on their summer stands. But, of course this necessitates sufficient stores of good quality and an extra good insulation.

Decentralized over the southern part of the country we have about 130 local unions attached to the national union "Norges Berohlerlog" in Oslo. (The Norwegian Beekeepers' Union.) The local unions have about 3000 members with some 25000 hives.

The honey crops here in Norway vary considerably from year to year and are not what you are accustomed to in the United States. However, an average annual surplus may in good years amount to 20-30 kgs. Some beekeepers do even record much more. Personally, I once got 65 kgs. from one hive in one season 25 years ago. Since that time I

never got so much. I therefore suppose that better conditions must have been cooperating that year. (The author lives on the western side of the Oslofjord.)

For connection with the above mentioned geographical situation with severe winters you will perhaps be interested in the hives we use for wintering the bees out-of-doors.

Heavy Insulation Used

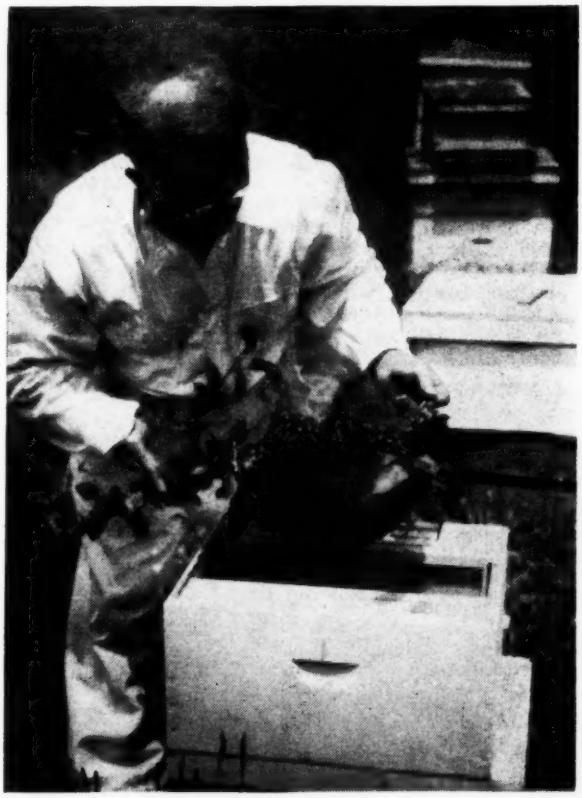
The severe winter season necessitates (as above mentioned) a very good packing insulation. Therefore the hives in use here now generally are double-walled with inlaid insulation between the outer and inner wall of the brood chamber. This inner hive is then surrounded by some porous insulating material and the whole is placed in an outer case. The floor is also insulated.

Double-walled hives without such extra insulation around them have been tried in different parts of the country and may be all right in the mild coastal districts. In Finland, however, they have proved insufficient and even the best built and constructed hives are now being put in such outer cases with extra insulation.

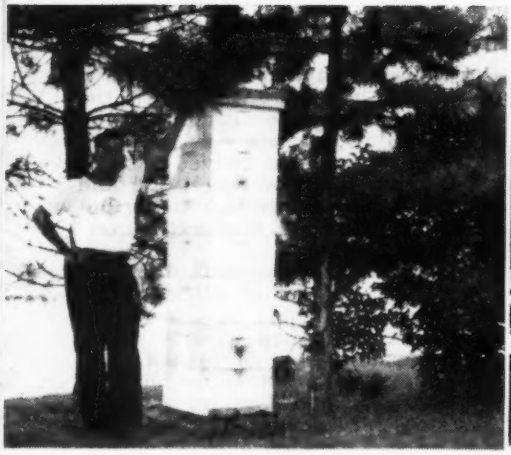
As you will understand, the conditions are somewhat difficult and therefore beekeeping on a commercial scale is limited. Some farms counted 300 to 400 hives last year. One beekeeper sent from his own apiary about 250 hives on a migratory trip. Beekeeping is thus carried on as a sideline with a comparatively small number of hives.

Considering the improvement on the agricultural and fruit crops, there is no doubt that beekeeping in Norway is of considerable national importance.

Hiving a Swarm in Pennsylvania



J. D. Nothstein of Palmertown, Pa., who has 135 hives, believes in hiving a new swarm in this manner rather than letting them go into the hive by themselves. — Photo by Paul Hadley.



John and his "Skyscraper". Note our adjustable entrance closer and top flight hole. Holes in the super were an experiment but did not work out as the bees would not draw out the foundation near the holes.

"What a Pose." Better look out, Bingham, that top one looks overbalanced from here. (Bingham was waiting for John to assist him in taking down that top one.)

John Gets a Crop

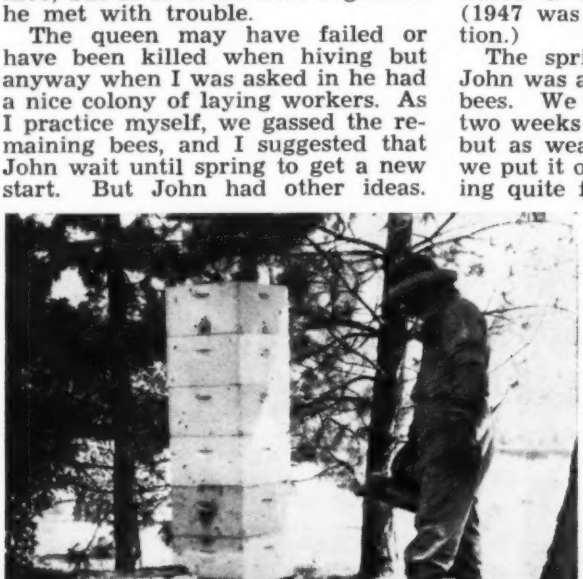
By L. E. Bingham, Plattsburg, New York

In the fall of 1946 John Tanner came to me and asked if I would help and teach him about bees.

As it turned out John had purchased a package of bees during the summer and, with the help of his friends, hived the package in a new hive, but as so often with beginners he met with trouble.

The queen may have failed or have been killed when hiving but anyway when I was asked in he had a nice colony of laying workers. As I practice myself, we gassed the remaining bees, and I suggested that John wait until spring to get a new start. But John had other ideas. He said, "We will get started right now." So via telegram to the south we had a 4-pound package of bees with queen in four days, which was installed in the hive with pollen and some honey. To make a long story short they wintered well and produced a moderate crop in 1947. (1947 was a poor year in this section.)

The spring of 1948 arrived and John was all hepped up to get at his bees. We unpacked April 7, about two weeks late as in ordinary years, but as weather was cold and damp we put it off. Young bees were flying quite freely at this time so we



Guess Bingham didn't watch out. (As Riley said, what a revolting development) but no matter no harm done, just a few dead bees thanks to good strong frames and founda-

Getting down now where the going is hot and heavy.

"I wonder where the queen is in that mob," says John as the excluder comes off. Better watch out, she may be right on the under side of that excluder.

did not make our usual check on the queen. The hive was heavy so we just let it stand until May 8 at which time we made a brood and stores check and put on one super. The queen was laying well but stores were running low. As dandelion was only about 10 days away we did not worry as I have not known dandelion to fail us.

As time progressed we added supers one at a time until we had five on. All were foundation frames except the No. 1 we put on. The pictures tell the rest of the story.

We have tried to display the combs in such a way as to dispel any doubt in the minds of doubting Thomases that this is all a set-up. Honey removed on August 16, 1948, was over 200 pounds, 4 full-depth supers, 9 combs to a 10-frame hive. One super still on the hive half full and fall flow (if any) still to come.

September 1, 1948—they did not hit the 300-pound mark. The fall flow was light but they did finish the super in addition to filling the double brood chamber.

I have a personal interest in these bees as I have in the past few years been buying bees and queens from one southern breeder for use in my own yard and find this strain to be just about perfect. This colony at no time this summer has made any preparation to swarm and absolutely no loafing.

Note that smile on John's face as he surveys his first good crop.

Author's note:
John is studying to be an old fashioned country doctor. John's father is a well-known dentist.

A Talk to Beekeepers

By M. J. Deyell

Joys and Sorrows of Beekeeping

A few years ago I was asked to give a talk on this subject and when I started to develop the assigned topic I discovered a number of things that could be said. If some beginner beekeepers knew about some of the sorrows and disappointments that are met in beekeeping, they might not begin. Of course, the same could be said of any business. However, I will say that the joy and satisfaction found in beekeeping more than offset the sorrows and disappointments experienced from time to time.

This year, around Medina, we hoped for a crop of clover honey. To date it has not materialized. It is doubtful at present whether we will get much if any clover honey in this locality. During the last three days the scale hive lost 2½ pounds, which makes almost one pound per day. Our bees in Western Ohio are doing better. It seems that the weather has been against nectar secretion in this locality. We would get a few days of warm weather followed by cool days. We just have not had nectar weather here for any length of time this season. Now that is disappointing, but we must not give up.

Fortunately, in this area we can count on a late summer and fall honey flow from goldenrod, aster, and other plants. While the honey is rather dark in color and has a pronounced flavor, it is honey just the same. Those who claim to know, tell us that dark-colored honeys have a higher mineral content and consequently a greater food value than the light honeys. However, many people prefer light-colored and mild-flavored honeys and especially clover honey. There are some, however, who like the dark honeys better than the light honeys. This is fortunate for beekeepers in this and similar areas.

The Two-Queen Hives

In last month's talk I mentioned making some two-queen colonies out of unusually populous hives of bees early in May. I hope to keep a record of the amount of clover honey produced by these two-queen colonies compared with the amount produced by single-queen colonies.

The Editor in clover

There being no white honey of any consequence, the experiment will be rather unsatisfactory. However, I may be able to arrive at some conclusion following the fall flow.

About two weeks ago I reduced these two-queen colonies into single-queen colonies, retaining the younger queens and disposing of the older queens. In some instances the older queens had not outlived their usefulness—in fact, a few of them had as much brood as the younger queens. These older queens were used to make up increase in empty hives in the apiary. I simply lifted about three frames of brood with the old queen into the middle of an empty hive on a new stand, shook in three or four combs of bees, put in empty combs, and provided a sufficient amount of honey for this increase. Most of the old bees returned to the parent stand, but the young bees stayed put. It is a simple matter to strengthen this increase or make-up colony by giving it a comb of sealed brood later on, placing this comb in the center of the hive. A comb of sealed brood with a few emerging bees is ideal for this purpose.

As already stated, the two-queen colonies were separated by an inner cover with a wire screen covering each side of the hole in the

center of the inner cover so that both colonies would have the same odor and consequently there was no difficulty in uniting the two lots of bees.

The Beekeepers' New Year

This has already been referred to elsewhere in this issue. It stands to reason that colonies that are intended to be wintered-over should be very populous late in the fall and in order to have such populous colonies there must be prolific young queens, plenty of honey, and ample comb space during the late summer and fall months for brood rearing.

Culling Out Poor Queens

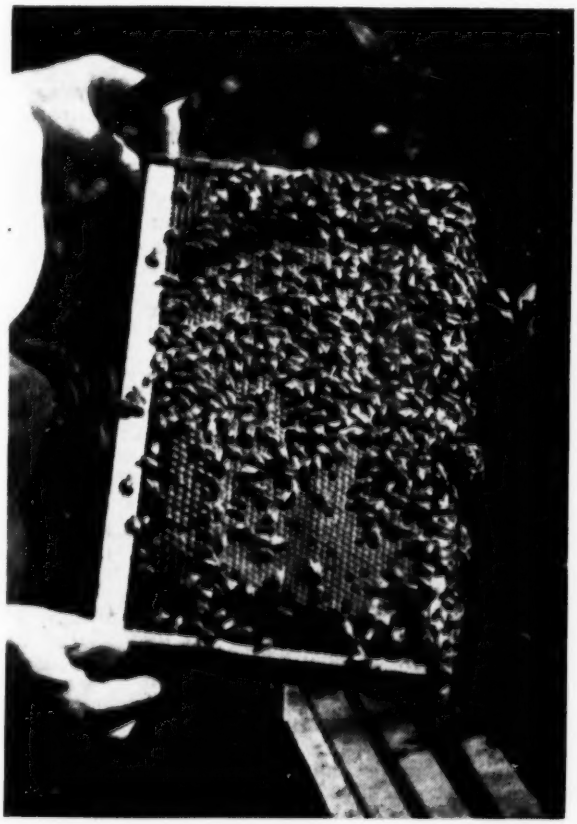
As we check through our bees during August we should replace poor queens with young prolific queens of good quality.

The question frequently comes up: When is a queen poor? As a matter of fact, it is not always an easy matter to detect a poor queen. Some queens that appear to be good, fail to do good work in egg laying. Colonies of bees are somewhat like human beings in that some work while others will loaf. It is important then to requeen with queens from stock known to be superior in honey-gathering qualities.

It is usually possible to tell from the appearance of a queen whether she is old or young. An old queen is usually somewhat shiny in appearance and walks over the combs rather slowly and perhaps hesitatingly.

"By Their Works Ye Shall Know Them"

However, the final test should be how much brood is the queen capable of producing and what is the general pattern of the brood. If a queen lays in scattered fashion instead of depositing eggs in solid blocks or areas of the combs, it can usually be said that such a queen is inferior in quality. It is assumed, of course, that such a queen has am-



A comb with worker-capped brood containing a small patch of drone brood in the upper left corner — not a perfect comb for the brood chamber.—Photo by Paul Hadley.

ple comb space consisting of worker cells, an ample force of bees to care for the brood she produces, and a sufficient amount of food—honey and pollen—for nurse bees to feed the brood. Sometimes a queen may be called poor when in fact she has not been given an opportunity to do her best work.

A good prolific queen marches over the comb in sprightly fashion, deposits eggs in the cells regularly, and this results in solid areas of brood. Then too, a good queen is usually quite large and thick through the thorax which denotes vitality and egg-laying ability.

Killing Off Colonies in the Fall

We receive a number of letters from beekeepers wishing to know if it is advisable to kill bees in the fall and stock the hives with package bees the following spring. This method is practiced in some parts of the North where wintering bees is difficult and almost impossible because of long cold winters.

The Beekeeper Who Forgot One Thing

Some years ago a beekeeper in Western Ohio decided to devote one of his apiaries to an experiment in killing bees in the fall. Early in August he removed all of the queens, permitting the queenless colonies to continue gathering honey and pollen, intending to save enough combs of honey for packages of bees to be installed the following spring. Apparently this beekeeper overlooked the necessity of destroying queen cells on the eighth or ninth day after the colonies were made queenless, and consequently when I happened along a little over three weeks after the dequeening had been done, this beekeeper discovered that practically all of his colonies had young laying queens. I have found from a number of experiments that when a colony is dequeened a young laying queen will appear about 21 days after the old queen is removed. This commercial beekeeper was learning by the trial and error method.

When colonies are killed off in the fall it is necessary to apply Cyanogas at the close of the season in order to destroy the bees. It is also necessary to remove the dead bees from the hives later, then store the hives containing combs of honey and pollen in a suitable building during the winter months. The hives have to be returned to their summer stands the following spring. Packages of bees are ordered to be shipped in time to be installed in hives early the following spring, preferably when the first early pollen is available.

Obviously, there are two sides to this question. The beekeeper who kills off his bees in the fall is not troubled with the wintering problem. On the other hand, he has to make sure that package bees are available at the right time the following spring and this, of course, incurs considerable expense. It is plain to see that this beekeeper can extract more honey in the fall than the beekeeper who winters over his bees. And so, the practicability of killing off colonies in the fall simmers down to a matter of location and conditions that prevail in various sections of the North.

Culling Out Poor Combs

The question may properly be asked: When is a comb poor? Obviously there are differences of opinion on this point. We like to have good combs in the brood chamber—combs that consist mainly of worker cells with no large patches of drone cells.

One authority said recently that eventually approximately 10 percent of the comb in a brood chamber will consist of drone cells. Perhaps he is right.

The late Mel Pritchard, queen breeder for The Root Company for over 40 years, said that if he were a honey producer he would have one drone comb in the brood chamber of each colony for the queen to occupy in laying unfertile eggs.

In his opinion this would prevent the bees from changing the midrib or base of worker brood combs to construct drone cells as is frequently done. Perhaps Mr. Pritchard was right. Possibly some beginner beekeepers do not know that drone brood foundation is manufactured and sold.

It is a simple matter, however, to obtain a comb of drone cells, especially during a good honey flow. Simply place an empty frame between two combs during a heavy honey flow and the bees will construct solid drone comb in the empty frame. If it is placed between two straight wired drawn combs, this new drone comb will be straight as a die. I have done some experi-

A hive in the apiary of A. W. Kruse of Des Moines, Iowa, taken towards the close of the 1945 honey flow—one of the best ever experienced by Iowa beekeepers. Note the white burr comb on the top bars of the frames which contain well-filled combs. — Photo by O. V. Gordon, Des Moines, Iowa.

menting along this line during the past seven or eight years.

In my opinion, any comb that has one or more patches of drone cells three or more inches in diameter should be taken out of the brood chamber and replaced with either a frame containing a full sheet of worker foundation or a good drawn comb consisting of worker cells.

Now the question with some beekeepers is: What should be done with imperfect combs culled from brood chambers? The majority of beekeepers would use them in supers as storage combs for the production of extracted honey. It would be preferable, of course, to have combs consisting mainly of worker cells. I have found that when such combs are used in supers, the bees will fill worker cells first and leave drone cells open until the very last and if they are crowded for storage space they will use drone cells for surplus honey. Doubtless, many of you readers have observed this.

In my experimental work where I have used five drawn combs alternated with four empty frames out of which combs had been cut, in an extracting super, the bees, during a good flow, will construct solid drone combs in the empty frames, but apparently they will fill them with honey as readily as they fill the adjacent combs consisting of worker cells. I am unable to say why they fill an entire drone comb and usually leave a patch of drone comb found in a worker cell comb empty until the very last. Perhaps some of you readers can tell me why.

Patches of drone cells in worker combs in the supers do tend to attract the queens into the supers above to lay unfertile eggs. It seems necessary when such combs are used to use queen excluders to keep the queens down where they belong.

It looks to me as though a queen, even though she is reasonably young, may get tired of laying all fertile eggs in worker cells and likes to change off once in a while and lay unfertile eggs in drone cells. Of course, old queens that are losing their fertility will lay many more unfertile eggs than young queens. That is one more argument in favor of having all colonies headed by queens that are reasonably young.

Be Sure to Have the Food Chamber Crammed Full

The food chamber, as the name indicates, is intended primarily to contain combs of honey for bee food. Unless the proper management is applied in the fall, some food chambers may be partially filled late in that fall and this will mean that the winter cluster will be found mostly in the upper food chamber instead of being located mostly in the lower chamber under the honey in the food chamber.

As E. S. Miller, the veteran beekeeper from Valparaiso, Indiana, says on page 503 of this issue, the condition just alluded to is the cause of most of the winter losses in the North. During a severe winter when bees are confined to their hives dur-

(Continued on page 513)

Asked and Answered

Yellow and Dark Caucasians

Question: What is the difference between yellow or copper colored Caucasians and dark colored Caucasians?—Roy Denune, Ohio.

Answer: According to the best authorities, there are at least two kinds of Caucasian bees, the dark colored, sometimes called grey Caucasians that come from the mountains of Southern Russia, and the yellow Caucasians raised on the plains or lowlands. The mountain-bred Caucasians are gaining in popularity mainly because of their gentleness. The yellow Caucasians are said to be cross and difficult to handle: It seems possible that they may have some Cyprian blood.

What to Do for a Weak Colony

Question: What can one do about a weak colony at this season of the year (July 7, 1950)? I think perhaps others using insecticides weakened the colony and then moths got a start. I have eliminated them both but they are not doing much.—J. H. Edelen, Ky.

Answer: It is possible that there is an old queen in the hive. If she is rather shiny in appearance, slow in her movements over the combs, and lays rather irregularly in the combs, she needs to be replaced with a young vigorous laying queen. If the queen is not old, your colony can be strengthened by taking a comb of sealed brood from another hive, shaking the bees from the comb, and placing this comb in the center of your hive containing the weak colony. An empty comb removed to make space for the comb of brood added may be put into the hive from which you remove the comb of brood. In due time young bees will emerge from the comb given to the weak colony and will boost the strength of the colony. You might repeat this procedure if necessary.

What to Do for Bee Louse

Question: What is used to spray section honey to kill **Braula coeca**?—J. R. Eaton, Ohio.

Answer: Concerning **Braula coeca,** which is the scientific name for the bee louse, we do not know of any spray used for destroying this pest. However, we understand that the louse can be easily killed by smoking the colony vigorously with tobacco smoke. Apparently the pests will not tolerate as much tobacco as the bees. The bees will soon recover, while the lice will be found dead on the bottom boards.

Bees Cluster at Hive Entrance

Question: I have one hive of bees that lie out on the front of the hive most of the time. They are not working. Sometimes there are as many as a peck on the front. They have not done any swarming. Is there anything I can do to make them work?—Geo. W. Johnson, W. Va.

Answer: When a cluster of bees is found on the front of the hive during a honey flow this is usually an indication that the combs in the hive are full of nectar with no room for more nectar that the bees might carry in. As a matter of fact, it is not unusual to find bees in such a cluster filled with nectar with no place to put it. Such a colony is likely to swarm if not given more supers, which means additional comb space for brood rearing and the storage of incoming nectar and pollen. Occasionally, during hot weather some of the bees in a colony will cluster out in front due to lack of nectar in the plants. Sometimes erratic weather conditions prevent honey plants from secreting nectar normally. Or a colony may hesitate to start storing honey in a super given, especially an extracting super containing full sheets of foundation, or a comb honey super. It is customary under such a condition to lift two or three combs of brood out of the brood chamber into the super above, replacing the empty space below with frames of full sheets of foundation. The brood above tends to attract the bees out of the brood chamber into the super above and as a rule this starts the bees to work in the super

Queen Excluders Not Needed in Producing Section Comb Honey

Question: In the June issue of Gleanings you described a method of producing section comb honey over a double brood chamber on page 371. Do you use a queen excluder? If you do, how and where and when do you use it?—Harold Boyd, New York.

Answer: Queen excluders are not ordinarily used in the production of section comb honey. Queens rarely if ever leave the brood chambers to lay eggs in the cells of sections unless one-inch starters are used in-

stead of full sheets of foundation in the sections. When one-inch starters are used, the bees will usually build drone comb in the empty space. These drone cells attract a queen into the comb honey super to lay unfertile eggs in the drone cells, whereas when full sheets of foundation are used in the comb honey sections there will be worker cells in which case the queens are not attracted to them.

Uniting Swarm with Parent Colony

Question: When a swarm issues and you wish to put them back what would you do with the queen that went out with them? Should she be destroyed?—W. J. Varner, W. Va.

Answer: Regarding the handling of a swarm, if you wish to unite the swarm with the bees in the hive from which the swarm issued, the old queen that came out with the swarm should be destroyed. You can quite easily find the old queen by placing an entrance guard over the entrance of the hive at the time the swarm is shaken in front of the hive. The worker bees will crawl through the wires of the guard but the laying queen, being unable to pass between the wires, will be found attempting to get through. Ordinarily, a colony that sends out a swarm will have a number of queen cells from which virgin queens will emerge. One of the virgins will eventually be left and after she goes out to mate she will become the mother of the colony. You will understand, therefore, the necessity of destroying the old queen when you wish to unite the swarm with the bees in the parent hive. In most instances, however, the old queen will be killed by the virgin queen but it is preferable to destroy the old queen when uniting is done in the manner indicated.

Bees Will Not Take Sugar Syrup

Question: Last March I had two full-strength colonies that had old black combs that needed weeding out. So on March 15th I removed these old frames and put in their place new frames with full sheets of foundation. The two colonies in question sat side by side and both were full normal colonies and treated exactly the same; hived on full sheets of foundation and given ten pounds of sugar syrup, mixed two parts sugar to one of water by volume. One colony went to work and is now in prime condition. The other sulked and starved to death. It would not under any condition take the food given it. It was offered syrup from a 10-pound friction-top pail with six holes punched through the lid and inverted over the frames. They simply refused to take food even when poured over the frames. Why? Is that a $64 question or is that common behavior?—T. H. Harvey, W. Va.

Answer: Just why one of the colonies would not take syrup, while the other colony alongside of it did and thrived on it is a mystery. If the one colony that refused to take the syrup had been fed brown sugar and the other colony white granulated sugar, we could understand why the one colony did not take the food. We tried feeding syrup made from brown sugar and bees wouldn't take it. We assume that the colony which did not take the syrup had a queen and was normal in every way and on a par with the other colony. Perhaps some beekeepers over the country have had an experience similar to yours along this line. We cannot recall having seen a colony that absolutely refused to take sugar syrup when it needed food.

Bees Won't Work in Supers

Question: I have six old colonies of bees. They are all working hard, but three of the old colonies are not filling their first supers. I put a super on each colony about the first of June. Three of them have the first super half-full but the other three are not working in theirs even though their brood frames were full when I put the supers on. Can you tell me the cause of this?—Mrs. Carl M. Jordan, Pa.

Answer: Regarding three of your colonies not putting honey in the supers, it is a fact that some colonies are more industrious than others. However, when there is a good honey flow on, a normal colony should store honey in the supers provided the colony is very populous in bees. It is possible that the three colonies in question may have old queens that are reaching the end of their usefulness. An old queen can be detected by her slow movements, rather shiny appearance, and the small amount of brood in the combs compared with the amount produced by a good queen. In the production of extracted honey it is sometimes possible to get a colony started working in the supers by taking two or three combs from a brood chamber and lifting them into the middle of one of the supers, replacing these combs of brood with empty combs below. If you are producing extracted honey you might try this, especially if your supers are standard and contain the same size frame as the brood chambers.

Editorials

Honey Price Support Program From the Production and Marketing Administration and Commodity Credit Corporation, Department of Agriculture, Washington, D. C., comes the 1950 Honey Bulletin on Honey Price Support.

Contracts for disposal of eligible honey are to be made through the Fruit and Vegetable Branch of the U. S. Department of Agriculture, Production and Marketing Administration. Purchases will be made from eligible packers in continental U.S.A.

Eligible honey should be in clean sound 60-lb. cans and honey to be equivalent to or better than U.S. Grade B—fairly clean, or as clean as honey strained through 23-mesh bolting cloth. Moisture content is not to exceed 18.6. The support price for eligible honey delivered to packers' plants in suitable containers will be 9 cents per pound. In barrels greater than 150 pounds, 8.75 cents per pound will be paid.

Honey in excess of 20 percent moisture content is not eligible for price support.

To be effective packers' contracts must be signed by packers not later than August 15, 1950.

Contracts and bulletin information are obtainable from any of the PMA Commodity offices listed on page 505, from Harold Clay, Specialty Crops Division of Fruit and Vegetable Branch of PMA.

Safety Week Needed for Beekeepers In some of the trade journals related to agriculture received recently, Safety Week, July 25 to 28, has been mentioned. In view of the enormous amount of traffic these days, it would appear that beekeepers, especially those in the commercial class who operate outapiaries, should initiate a continuous safety program. A number of beekeepers have lost their lives and others have been seriously injured in accidents on the highways.

Obviously, one of the most important precautions is to have trucks in good mechanical condition, being sure that brakes work properly. Extra care should be taken in slowing down while crossing intersections.

It is also well to carry a first aid kit in the truck, and to join a Boy Scout Troop, at least long enough to learn how to apply first aid intelligently.

In our opinion, every truck—and passenger car for that matter — should carry a fire extinguisher. If it should not be needed for the car or truck being driven, it might be used on another car or truck that met with an accident on the road.

Why Differences in Colony Production? As we visit commercial apiaries at the close of a major honey flow, we note a lack of uniformity in the height of hives, including supers. This was also noticed some years ago when we actually secured large crops here in Western Ohio from sweet clover. Theoretically, it should be possible to have every colony practically as good as the best in production.

It would appear that the drifting of bees from one hive to another during a heavy honey flow, because of the hives being too close together or without the hives being marked in some way for identification by the bees, may be one cause of colony difference.

Hives should be placed farther apart with some means of identification to avoid drifting. For further particulars see article by Wayne Keller on page 476.

Crimson Clover Rejuvenates the South In the June issue of Coronet there appears an article "The South's Magic Carpet" which tells how crimson clover which reseeds itself each year is spreading rapidly and is creating miracles almost over night in soil enrichment.

Nothing is said about bees to pollinate the blossoms but we assume it is a honey plant and that bees are needed for pollination when seed is produced.

The old time crimson clover had its limitations and had to be planted each season. Seventeen years ago some southern farmers stumbled onto a strain of crimson clover that reseeds itself and from this handful of seed has been developed the Au-

tauga strain of reseeding crimson clover.

Our entire country North and South needs more grass, and more legumes to enrich the soils as well as to control erosion which has been taking a heavy toll of our topsoils.

When more clovers are grown agriculture will prosper and incidentally the beekeeper should secure larger crops of honey.

New Honey Product A new fruit product of interest to the beekeeping industry is described in an article in the July 1950 issue of the food trade magazine Food Industries. Entitled "New Crystallized Fruit Spread Shows Commercial Promise", the article describes the method of manufacture and the properties of the product. It is a fruit-flavored spread which depends for its texture on fine-grained crystallization of dextrose similar to that found in Dyce-processed honey.

The spread is made from fruit (juice or puree) and honey, evaporated to about 17 percent moisture and then finely crystallized to produce its smooth non-sticky consistency. It is a result of the honey research program at the Eastern Regional Research Laboratory of the United States Department of Agriculture.

In the article the author, J. W. White, Jr., states that "the sugar component of the spread must be either natural or deflavored honey", since the soft texture obtained is dependent on the presence of an excess of levulose over dextrose. Invert sugar was not found to be suitable. He recommends that deflavored honey be used since it is a uniform material with no flavor to mask the fruit flavor. It is noted that use of natural honey and a reduced proportion of fruit makes a pleasing fruit-and-honey flavored product.

Production of the spread in several flavors is reported. These include strawberry, red raspberry, peach, grape, pineapple, apricot, loganberry and orange. Usually one part of fruit and one part of deflavored honey is preferred.

It is suggested that since a vacuum cooking process is included, return of the volatile flavoring constituents to the final product is desirable for best quality.

The method of production of the fruit spread is described in some detail. The fruit component may be juice, puree, or concentrate. It is advised that they be depectinized to avoid jelling tendencies later in the process. Sugar component, as stated above, must be either honey or deflavored honey. Equal weights of these two constituents are mixed and evaporated in vacuum to a moisture content of 15 to 18 percent. The concentrated material is next processed in a manner similar to that used for honey spread or finely crystallized honey. It is cooled to about 95 degrees F. and a fine-grained "starter" material mixed in. The fruit essence may be added at this point and the spread filled into consumer packages and held in cool (55 to 60 degrees F.) storage for about seven days to complete crystallization. Reprints of the article may be obtained from the author at the Eastern Regional Research Laboratory, Philadelphia 18, Pennsylvania.

The research reported in the article was done under the Research and Marketing Act of 1946. It is part of the program at the Eastern Regional Research Laboratory to improve the utilization of dark, strong-flavored honey. By use of deflavored honey sirup produced from these unmarketable honeys, another outlet for such honey is created. A complete description of methods for the production of deflavored honey sirup is also available as AIC-272 from the Eastern Research Laboratory upon request.

"Beekeeping Faces Bright Future" So says Wm. T. Gran, Jr., President of Ohio State Beekeepers' Association. We quote the following from a recent letter to beekeepers throughout Ohio:

"We definitely face the brightest future in beekeeping history. In the past we produced only honey and beeswax which have had to compete with many inferior substitutes. In the future we will be selling pollination for which there is no substitute."

Mr. Gran is to be commended for sounding this note of optimism. In our opinion he is right. There is no substitute for the pollination service performed by honey bees.

Then too, there is reason for op-

XUM

timism because of the present trend in honey prices. The price support announcement which came June 30, 1950, and mentioned in the July Gleanings, should tend to stabilize the price of honey.

As a matter of fact, the demand for honey in some sections of the country has strengthened considerably during the past few months. And should there be a strong demand for sugar because of war conditions at the present time, this may have an effect on the demand for honey.

It can be said truly that beekeeping faces a bright future.

Requeening in August Some years ago, in the Root Apiaries, we aimed to requeen every colony sometime during August. We did this largely because beekeeping authorities advocated this practice.

We still believe that annual requeening is good practice, especially in the production of extracted honey where queens are worked hard throughout the season in double-brood chamber hives.

It appears that a queen is capable of laying just so many eggs during her lifetime, and if she is given the opportunity of laying prolifically during the entire season she may reach the end of her usefulness in one season. However, we hear beekeepers tell about having queens for three, four, and sometimes five years. To our knowledge we have never had a queen that lived five years. It seems probable that some strains of bees with pronounced longevity characteristics may produce queens that live longer than ordinary queens.

During the season of 1938, one of the best years we have ever had in Ohio, we had quite a number of colonies in Western Ohio in what was then the sweet clover region. The major honey flow began the 28th of May with yellow sweet clover. During the first week of June, alsike clover was in bloom as well as white Dutch. About the beginning of the third week in June, white sweet clover was on and this lasted until the middle of July. This was followed by alfalfa which yielded well that year because of dry weather which prevailed during late July and early August. No wonder colonies piled up an enormous crop, some hives ten stories high.

Queens wore out rapidly that season. We were so busy extracting honey that we did not requeen the colonies in those yards during August as we had done previously. We found, however, the following spring that approximately 80 percent of the colonies had superseded their old queens late in the summer and reared good young queens that appeared to be comparable with queens that were purchased from breeders.

What we are getting to is this: Be sure that each colony is headed with a good prolific queen during August in order that there may be an abundance of young vigorous bees to go into winter quarters to help insure successful wintering. A good queen will be also capable of producing a populous colony the following spring to take advantage of honey flows that occur throughout the season.

300 Colonies Dead or Depleted from Parathion It will be noted that reference is made by Dr. J. E. Eckert in this month's North, East, West and South Department to the large loss of bees in California by parathion poisoning. Beekeepers who do not happen to be in areas where these dangerous dusts are applied cannot realize the problems with which some other beekeepers who suffer such losses have to contend.

Since the importance of bees for pollination is being recognized over the country more than ever before and since there are not enough bees to perform the pollination service adequately, it is high time that there be cooperation between those who apply deadly chemicals and the beekeepers.

Obviously, it is the duty of beekeepers to investigate thoroughly the lethal qualities of the various insecticides being used at present. County and state beekeepers' associations could well have as one of their objectives intelligent cooperation between beekeepers and those who use the chemicals.

We recognize the essentiality of using such chemicals to destroy or reduce insects that prey upon various farm crops. However, since honey bees are so essential to agriculture for pollinating over 50 farm crops including fruits, vegetables, and legumes, it is high time that measures be taken to protect honey bees so vital to agriculture.

From North, East, West and South

SOUTHERN CALIFORNIA, July 3

Weather: Most of June was fairly cool but toward the end of the month the thermometer rose with a bang. Temperatures for a week have ranged anywhere from 100 to 115 degrees and even higher in some desert areas. Fortunately the nights are cool in most places.

Condition of Plants: With these very warm days, whatever moisture might have been left in the ground was gone in a short time. So the native honey plants are practically past for this year. Now the beekeepers will turn to the alfalfa, vetch, and cotton fields. These plants all seem to be in good condition. In most cases it means moving the bees to new locations if additional honey is to be gathered.

Market: The honey market is in a very stable condition. As we stated in the last issue of Gleanings, as much as 11 cents is being paid for the better grades of honey.

On June 30 telegraphic news from Washington, D. C., was received saying that the Department of Agriculture had announced that the price to beekeepers for all U. S. Grade B honey will be supported at 9 cents delivered to the packer's plant in 60-pound cans. Although the 9 cents is not as much as was expected, the prices on the lighter and better grades of honey should be stabilized at well above the price for Grade B honey. The beekeepers have patiently waited a long time to hear the final news on the honey price support bill and even though it isn't just what was expected, it is gratifying to know that the matter is finally settled.

Miscellaneous: When we read and hear so much on the pollination question we begin more and more to understand the problems with which the beekeepers are confronted. These of course are somewhat offset by the good prices being paid them for moving their bees into the orchards and fields for pollination purposes. If the orchardists, farmers, and beekeepers could get together as suggested by G. F. Knowlton, Extension Entomologist of Utah State College, in the June issue of Gleanings, many of the problems could be ironed out and everyone concerned would be happier.—L. L. Andrews, Corona, Calif.

NORTHERN CALIFORNIA, July 1

Weather: Some of the hottest weather in many, many Junes has hit Northern California (and it is still hotter in many portions of Southern California.) Oddly enough, rain fell unexpectedly in portions of Northern California one day last month and one beekeeper reported that he ran into rain, hail, and snow over a 100-mile stretch of mountain road while moving bees into a clover location. Right now the unirrigated fields are parched and brown and the fire hazard is mounting daily. Several grain fires have occurred but no major forest fire. The dryness of the soil will cut short the honey flow from yellow star thistle which has escaped the destructive effects of weed control methods.

Condition of Colonies: A recent trip through the Ladino clover seed areas indicated that most colonies are making a living and some a slight surplus above their daily needs. No great amount of surplus will be taken from Ladino clover this year, although in those areas where colonies are not moved in at the rate of two hives per acre the bees are making more surplus than in past years. Most colonies in Northern California are run in two stories although some beekeepers add the third story rather than visit their colonies so frequently. This will seem odd to many beekeepers who have from two to four supers per colony, but the concentration of bees is so great and the bee pasture is becoming so poor that two-story hives are considered sufficient by many commercial beekeepers, and particularly by those engaged primarily in the package bee and queen

XUM

business. Where colonies have not been shaken for packages, and are located in favorable honey producing territory, the third and fourth super is needed to prevent overcrowding.

The Honey Market: There has been no lowering of prices on the retail market and honey is moving at about the same rate as is usual in hot weather. Some of 1949 honey is still in the hands of beekeepers in Northern California but most of the 1949 crop found its way to market during the delay in the announcement of the support price program. This announcement has just been received and from where I sit it looks as if someone pulled a fast one by deciding on the date or period for the determination of parity. Since there are no set rules for such determinations, one date is as good as another as far as the statisticians are concerned. However, since support prices are frequently taken at top prices, the 9-cent figure does not look too good for the best grades of table honey which are now being sold for 10½ to 11½ cents in California, and should bring more because of the continued high cost of production. Price is also based on a delivered basis to the packer's plant. (I predict that some beekeepers will become more involved in the packing business than in past years.) Since no allowance is made, apparently, for the better table grades over honeys in the amber and light amber classes, it is probably assumed that the better grades will find their upper levels, or will be governed by supply and demand. Under normal conditions it costs as much to produce an amber or light amber honey as it does a white or water white, and fortunate is he who is located in the white honey areas.

Pollination Programs: Beekeepers in most sections of California are interested in securing rentals for the services bees perform in pollinating various crops. The practice of renting bees is not new but that of increasing the number of colonies per acre from two to four times the number required for honey production is new, and has been found bewildering for both the beekeeper and the seed grower. As a result many beekeepers and seed growers are experimenting this year with different kinds of contracts—or no contracts at all—in order to arrive at some form of agreement which will be mutually beneficial. Many seed growers have to be convinced that bees are required for legumes and have to be shown. On the other hand, some beekeepers need experience in the amount of honey different legume crops will produce. As a result the terms for the pollination of alfalfa, for instance, vary from no charge at all to the equivalent of 60 or 90 pounds of honey or a percentage of the seed crop above a specified average, plus a base for the additional risks of poisoning involved when one has to concentrate his colonies in a limited area.

Insecticide control, in connection with the production of legume seed, is urgently needed, at least in California. Recommendations are being made for the use of parathion, TEPP, chlordane, DDT, and BHC for the control of injurious insects without regard in many instances to their highly toxic effect on the pollinators. Some seed growers apparently feel that enough pollinators will survive to give them adequate seed set and many chemical interests are simply interested in selling chemicals to kill the destructive forms which are or which might be present. I have recently seen the remains of 380 dead or depleted colonies as the result of the application of parathion because it was cheaper to use than less toxic insecticides. Beekeeping cannot survive in areas where parathion or EPN-300 are used on crops which are visited by the bees. Some of the leading seed growers are definitely aware of the need and economic worth of bees and for the necessity of protecting them from the injurious effects of arsenicals and certain of the newer chemicals. Let us hope that they will set an example for their neighbors.—J. E. Eckert, University of California at Davis.

COLORADO, June 26

Weather: The moisture condition still remains dry with a few rains giving but slight relief. The wind blew abnormally strong all over the state all spring. Many sections will be out of irrigation water before long. Hail caused some damage to crops in the Northeast part of the state.

Crop: Cold wind at the time of dandelion bloom prevented the bees

from collecting the normal amount of stores from that source. Some sections had a winter kill in alfalfa and sweet clover of 50 to 75 percent. This together with dry weather cut stock pasture tremendously, with the result that what little bee pasture remained is being grazed to the ground. Some sections have some sweet clover for seed.

Condition of Bees: Bees wintered with very little loss but consumed all stores early, requiring the beekeepers to feed in large amounts. Colony strength on the average is normal or above. If the bees can find something to work on they will do all right. Many beekeepers are wondering if the bees will store enough to winter on.

Miscellaneous: The State Department of Agriculture is working with the beekeepers trying to set up a honey marketing order similar to the marketing orders now in effect in the potato, peach, and pear industry. The potato, peach, and pear producers feel that the marketing order has helped their industry so it may help the honey industry. The honey marketing order will go to a vote in July to see if the beekeepers want such an order. — Albert L. Crouse, Denver, Colo.

MINNESOTA, July 10

Spring Weather: March and April were so wet and cold that it was difficult to get the bees unpacked or hauled from cellars. Much unpacking was done in May—later than ordinary. Installing package bees was risky. The Red River Valley had flood conditions with consequent disaster. Beekeepers up there surely had their troubles last spring! Then in May and June there were only occasional scattered rains and plants withered for lack of moisture. Parts of eastern and northern Minnesota fared better as to rainfall where white clover did fairly well. Also, many windy days kept bees in their hives. All these weather conditions retarded colony build-up.

This and That: The honey crop and rains are inseparably connected. During May and June scattered showers made one locality green with verdure while several miles away seeds lay unsprouted in the dry earth. Northern Minnesota had rains while southern and western areas lay parched excepting where life-giving showers had fallen. At this writing it looks as though 75 percent of a normal crop will be gathered but where alsike and Dutch clovers are the principal nectar sources the percentage will be even less. A general report of more sweet clover this year may make a difference in the final crop. With fewer colonies and present prospects can Minnesota rank first again this year?

The honey market seems to have steadied off at about 10 cents delivered—not enough to make the bee business pay. A few beekeepers with particularly favorable locations may be able to produce honey at 10 cents a pound, but certainly many do not get high enough colony average yields to show a profit at that price. With production costs mounting higher and higher, beekeepers had hopes that the Government price support of 60 percent of parity would be set at 75 percent, which might mean a small profit. With other commodities supported at 90 percent of parity this difference works a discouraging hardship on beekeepers. Allowances for handling costs insures that the honey packers will receive a profit no matter what the parity percentage. Let us hope that the honey market will not make it necessary for producers to accept the 9-cent figure. This present floor is the beginning of a serious effort to stabilize honey prices and it may be raised later. Now what more can we do to make the business pay?

Reports come in of increased interest of farmers and seedmen in bees for pollination. Some beekeepers may be able to make a charge for this service. However, in many sections the beekeeper is so much in need of better pasturage that he is glad to move in his bees without any charge, and as usual pay honey rent for the location. Or a gift of honey may make a difference between a farmer having a sweet clover field or plowing it under. If he does plow it under, the beekeeper has lost much more than the honey gift. For decades American beekeepers have been making their living from the sale of honey, paying

XUM

honey rent for apiary locations, and charging nothing for the pollination service. This time-established procedure will not be quickly changed.

Compared with some years there was very little swarming. This may be attributed to the weather last spring which retarded the build-up of colonies. Colony condition, weather, and nectar flow are three important points to bear in mind in determining what hive manipulation to make to prevent swarming. Whatever the reason, or combination of causes, this year there are few beekeepers around here complaining of excessive swarming.—Bruce Morehouse, Montevideo, Minnesota.

IOWA, July 5

General Conditions: The conditions experienced by Iowa beekeeping so far this season proved to be very interesting. The spring build-up of colonies throughout the state was rather difficult. Weather cut out a great deal of the pasturage so it was necessary to do an unusual amount of feeding to maintain good working conditions within the colony. Where feeding was not done colony conditions deteriorated.

In general there was little swarming which is only a logical conclusion for the conditions just described. A few reports indicated swarming tendencies where colonies had been given good treatment and the honey flow had been delayed. The honey flow broke about 10 days later than usual.

The surplus flow throughout Iowa has been better than for five years, at least. There's more acreage of legumes, especially yellow and white sweet clover. There probably has been more red clover available to bees, although there is still a question as to the amount of nectar collected from this plant. Basswood trees have yielded heavily in some areas. White Dutch clover has not been dependable throughout the state. In saying that the pasture has been extensive it must be realized that weather conditions have been favorable to the secretion of nectar and to the flight of bees to gather this nectar. So, this sums up to the fact that good colonies have been able to realize a profitable honey flow. In fact, colonies which have been given the best of attention have responded during this flow in a manner equal to that of the good old days.

Any spraying operations for weeds have seemed to interfere less this year with pasturage conditions than in years past. The spraying for corn borer has been delayed enough that most of the honey flow has been experienced ahead of any possible overlap of interests.

Miscellaneous: The pollination program in the state received a very excellent initial build-up in the pollination clinics held at Cedar Rapids on June 2 and at Atlantic on June 3. These meetings presented a very comprehensive program. The meetings were well attended by people interested in legume seed production. The average attendance of 400 speaks for itself.

There is considerable interest over the state in possible legume seed production. In fact, there have been many more inquiries for bees than offers of bees for pollination services. It has been a matter of attempting to search for bees to meet the demand which is present.

There is no uniformity of cooperation between the seed producer and the beekeeper. There are probably two underlying reasons for this. The seed producer has not been able to convince himself of the value of bees as a pollinating agent. He has a tendency to consider the bees as something which is here and is making a contribution and need not be paid for.

On the other hand, the beekeeper has been so anxious to get some immediate cash returns from operating bees that the tendency has been to figure any cash receipts as clear profit. It is hard for the beekeeper to realize that moving a colony in for pollination and moving it out 14 to 20 days later is an operation which in reality costs $5.00 per colony. This is in contrast to the customary picture that the $5.00 is profit.

The seed producer has not always followed through with the best possible practices in crop management. It is hard to reorganize a well-established system of hay removal, the introduction of a spray program for

harmful insects, and so on. The beekeeper has generally made a conscientious effort to rent out only colonies which had a possibility of serving well as pollinators. Many beekeepers have undertaken the pollination program with about half of their colonies and retained the other half for the customary honey-producing operations. There has been no serious overlap of spray programs for insect pest control and the services of bees for pollinators.

It is yet too early to get the reaction of Iowa beekeepers relative to the PMA announcement of the floor price for honey. It is safe to say that this announced price does not meet the anticipation of Iowa beekeepers. It will be interesting to follow the effects of this announcement on the marketing situation which has confronted beekeepers.—F. B. Paddock, Ames, Iowa.

MISSISSIPPI, July 8

Weather: The past spring has generally been rather favorable for honey production. The winter was so mild, however, that many colonies exhausted their stores by too much activity before any plants were in bloom and were very weak when the honey flows began. Yields during the spring have been spotted and irregular, with great variation within single apiaries. Some areas in the southern part of the state have had extremely dry weather. Here at State College and vicinity fairly frequent rains have caused white clover, sweet clover, and vetch to continue blooming longer than in some seasons.

Bee Conditions: Bees in this prairie section are generally in good shape, one package shipper reporting that he is now getting comb honey from colonies that produced packages earlier in the year. Sixty miles north of here, however, no surplus is being stored and some yards are in actual need of feed.

Demand for Bees: Clover seed producers in several sections of Mississippi are beginning to realize the importance of bees to them and are inquiring for addresses of beekeepers. It is hoped that mutually advantageous arrangements can be made in many cases.

Where Are the Bees? During the past ten days the writer traveled by car more than a thousand miles in Maryland, Pennsylvania, West Virginia, Michigan, Indiana, Kentucky, Tennessee, and Northern Alabama and saw many thousands of acres of white and yellow melilotus and other clovers—but not a single bee hive on the entire trip. Of course, I know bees are not kept near highways for various reasons, but in some of the level prairie sections they could have been seen long distances away, but apparently they just weren't there.

Markets: Good clover and vetch honey is retailing readily here at $2.00 a gallon. — Clay Lyle, State College, Miss.

PENNSYLVANIA, June 24

Conditions: The past was a winter in reverse. The queens continued to lay through December and January, then slowed down considerably or quit laying at the normal time for egg laying to begin. As a result very little brood was reared during February and March and colonies were relatively weak the last of April which is the normal time for them to be moved into orchards for pollination.

The season as a whole was quite late, however, with fruit blooming nearly three weeks later than last year. The late fruit bloom gave bees more time to build up which helped considerably in getting them in shape for pollination.

Swarming by colonies moved into orchards was excessive. Some fruit growers reported as many as 12 swarms hanging on trees at one time. I agree with the recent article in the journals that many beekeepers are renting bees below a price at which a fair profit can be made.

The early flow from fruit, dandelion, locust, and tulip was good with stronger colonies filling a super from these sources. The clover flow has been discouraging to date (June 24). We are hoping it is late and not a failure. The poor flow has been

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due largely to rain and cold weather. However, the amount of alsike and white Dutch observed in fields is considerably below normal.

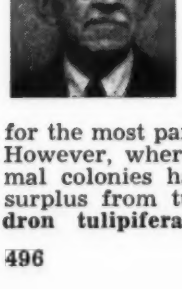
Conditions are ideal for a flow from sumac and basswood. There is a larger amount of moisture in the soil for this time of year than is normal. This excess moisture is also favorable for a second crop of clover which may produce nectar later in the season. The small surplus of honey stored this spring is light in color and has a fine flavor.

Miscellaneous: The unfavorable weather has also been reflected in our queen-rearing program. Many queens have disappeared in the queen-mating hives and could not be found when the colonies were checked for laying queens. The acceptance of grafted cells has also been below that obtained last summer.

The honey market continues to be fair for light honey but very slow for the darker grades. Discouraging reports of dropping prices continue to be heard from the larger cities. One-pound and five-pound containers are reported to be selling for less than one-half of what was obtained for them during the war. These low prices seemed unnecessary as long as business conditions and the prices of nearly every other item remain where they were during the war and the beekeeper has to pay at a higher rate for everything he buys.

A number of our large beekeepers are still pushing ahead in spite of these difficulties and are buying up many small lots of bees being sold by those discouraged with low prices.—E. J. Anderson, State College, Pa.

NEW JERSEY, July 6



Condition of Bees: Bees wintered with exceedingly small loss. A cold period in late spring held brood rearing in check for a time but when favorable conditions returned colonies built up rapidly. Swarming for the most part has been excessive. However, where held in check normal colonies have a deep super of surplus from tulip tree (**Liriodendron tulipifera**) and blackberries, both of which produced unusually well this season.

Crop Prospects: There is considerable sweet clover showing in some parts of the state. Smooth sumac (**Rhus glabra**) has just started to yield at this date, and a good crop is in prospect from it if weather conditions favor.

Honey Market: The movement of honey is about normal for this season of the year. There has been a slight shading in retail prices but no evidence of price cutting as yet.—Elmer G. Carr, Pennington, N. J.

TEXAS, July 8

Weather: The temperature for June was about normal while rainfall in most areas of the state was below normal and the distribution erratic.

Bee Plants and Honey Crop: At this time beekeepers over most of Texas are extracting. The flow from horsemint was of long duration and quite heavy. The yield if not equal to that of last year is well above average. Bees also worked mesquite heavily during June. However, with overlapping flows it is difficult to estimate the yield of mesquite. In the Uvalde district the crop from guajillo was perhaps the best for several years. The yield from vetch was satisfactory with some beekeepers obtaining a surplus as high as 70 pounds per colony. Except in North Texas the flow from sweet clovers is about over. From present indications sweet clover continues to be the dominant source of honey in Texas. There is as yet no indication of the extent of the flow from cotton and alfalfa. Infestation of cotton by insect pest may greatly influence the honey yield. As a whole, the honey crop for Texas is expected to be above average if not equal to that of last year.

Market: Movement of honey in the retail market remains slow with prices about the same as in the spring months. Comb honey is in good demand by packers. Producers have been getting around 9 cents for white extracted honey.

Miscellaneous: Beekeepers feel

that price support will at least result in a more stable market. The profitable disposal of dark and strong-flavored honey, which constitutes a sizable portion of the total crop, however, remains to be ironed out.

Great promise is offered in Circular No. 272, Bureau of Agricultural and Industrial Chemistry, U. S.D.A., from the results of research by the Eastern Regional Research Laboratory in newly developed processes for **flavor modification of low grade honey.**

With a generally heavy infestation of cotton by insect pests, growers in the Lower Rio Grande Valley have again used calcium arsenate as a control measure. As a result resident colonies of bees in the Valley have suffered heavy loss from poisoning with some yards practically annihilated.

There appears to be some diversity in the findings by beekeepers as to the honey yield from Madrid clover as compared with Hubam. In Central Texas Madrid is not considered equal to Hubam in this respect while in North Texas Madrid is considered fully as good. In Erath County where vetch is the principal legume crop and sweet clovers are grown less extensively, the veteran County Agricultural Agent G. D. Everett has requested local maintenance workers of roads to refrain from mowing sweet clover along roadsides until after the seed has matured. As a result volunteer sweet clover is on the increase along roads and in wasteland and may soon find favor with farmers to the extent that sweet clover will be grown under cultivation more extensively.

Beekeepers regret to learn of the loss by fire of practically the entire contents of the plant of The A. I. Root Company of Texas at San Antonio. They have taken quarters in the building next to them, and are carrying on with new stocks.

The North Texas Beekeepers' Association, the oldest local organization in the state but which has been inactive during the past few years, is being reorganized with Edwin Glew as temporary chairman. The dates of the meeting of the Texas Beekeepers' Association are October 2 and 3 at College Station. Further announcement and program of the meeting will appear in early issues of Gleanings and other bee journals.—A. H. Alex, College Station, Texas.

ONTARIO, July 10

Readers of Gleanings, and beekeepers of Ontario, and Canada generally, will learn with regret that J. L. Byer, who wrote this column faithfully for so many years, passed away on June 16th. Mr. Byer suffered a stroke over a year and a half ago, and was confined to his bed most of the time since. He was one of the few remaining older beekeepers who laid the foundation of Ontario beekeeping in company with Chrysler, Pettit, Holtermann, Couse, Krouse, and many others. He was in the hey-day of his career, when as a boy of 18 I was attending my first conventions. His free and easy manner and ready wit made him popular with all who knew him. His sons Walter and Edwin are carrying on the business and have enlarged their holdings considerably so that their outyards are now spread over a large area of Central Ontario.

Conditions and Prospects: After a June that was marked by more than the usual amount of cold, showery, and backward weather, we are enjoying summerlike conditions. The season is about ten days later than normal but that was no detriment, as it enabled weaker colonies to build up before the honey flow came on. We noticed the first surplus honey in the supers on July 1, and the flow has been intermittent since that time, with a few days with exceptionally good flows which added considerable weight to the supers.

Miscellaneous: Some time ago I drove several miles up and down the side roads in my bee territory without seeing one single field of alsike or sweet clover. Most of the hay mixtures consist of timothy, red clover, and alfalfa. Occasionally pure stands of alfalfa are seen, but this is usually cut just as bloom is beginning to appear. Very little legume is grown for seed. In some localities our principal nectar plant

is a noxious weed known by such common names as blue weed, blue burr, blue thistle, and blue devil, botanically as **Echium vulgare.** It is spreading rapidly, and threatening to overrun the portions of country that are classed as submarginal. It does not appear to stand up to thorough cultivation.

Pellett, in his book "American Honey Plants", has this to say regarding it: "The blueweed or viper's bugloss is a weed naturalized from Europe. It is common in the meadows and roadsides of the Eastern States. It has showy purple or blue flowers and grows about two feet high. June is the flowering period. Sladen lists it as an important source of nectar in Southern Ontario. Probably not sufficiently abundant to be very important in many places.

"This plant was introduced into Australia from Europe by a settler named Patterson, and has become widely spread there where it is known as 'Patterson's curse'. Rayment states that it yields honey but hardly sufficient to store much in the supers.

"According to Dr. E. F. Phillips blueweed, commonly called blue thistle, is a reliable source of nectar in the Shenandoah Valley and in parts of the higher valleys of Maryland."

Here in Southern Ontario it seems to be a prolific yielder of nectar, the honey being light in color and of good flavor. However, as stated previously, it is classed as a noxious weed and it will probably be only a matter of time until the agricultural authorities will attack it with weed-killing sprays and destroy it. — Allan T. Brown, Peterborough, Ont.

Evolution of the Bee Hive

Primitive hives were simply trunks of hollow trees in which bees lived. These were cut down and carried to the home of the beekeeper. Keeping bees in hollow logs covered by boards is still practiced in parts of Europe, Africa, and Southern United States. The straw skep still found in parts of Europe is constructed to resemble the trunk of a tree with the top bell-shaped. The box hive is still all too common in certain parts of this country. In the October, 1940 ,Gleanings in Bee Culture on page 622 is a description of a hive somewhat similar to Langstroth's, made in England in 1683. It had half-inch spacing between the frames. To Langstroth goes the honor of making the first movable hanging frame hive with correct spacing, and with movable roof, in 1852. Langstroth did his work so well that he left little for future inventors to do.

American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

A longtime aim of the American Honey Institute is being accomplished. Some dairy employees are no longer being called milkmen — but milk and honey men! For some dairies are distributing honey on their routes as well as milk, cream, and other dairy products.

Have you discussed the idea of a milk and honey route with a representative of your local dairy? Tell him what advantages the plan has for you both. For at the same time your sales of honey increase, his sales of milk will zoom.

Recipes calling for both of the natural foods, milk and honey, are easy for the homemaker to prepare, are simple to serve, and are mighty good to eat. And nutrition-wise, the combination can't be beat.

Show your milkman a copy of the American Honey Institute's book Milk and Honey Treasures. This 12-page book is chuck-full of milk and honey wonders — from honey milk toast and honey banana drink to honey floating island and creamy lemon snow pie.

Ask the milkman to distribute notices of the honey delivery well in advance. Ask him to include the sweet in various quantities on his milk cards. Place a notice of the delivery in the local paper.

On the first day of honey delivery travel with the milkman and give each customer a copy of Milk and Honey Treasures. The book will speak for itself—in your favor!

Don't let your promotion stop there. From time to time ask the milkman to distribute recipe cards or leaflets with his deliveries. Keep homemakers informed about your product and keep them interested in its use.

* * * * *

Every day the American Honey Institute's mailbag holds requests for new copies of the Old Favorite Honey Recipes book. Satisfied honey users write that they've used the old favorite recipes so much that their books are worn out! They don't want to be without the reliable, tempting recipes for a minute.

New copies of the book with its cheerful yellow cover give new inspiration for honey use. Always keep a supply on hand and display the books so they can be seen. Your order for the books—at $12 for each 100—will promptly be filled.

There is something new for your honey promotion campaign at the American Honey Institute. A brand new window streamer is ready for this season's harvest. The streamer measures about 11 by 17 inches — just right for the retailer's window or your roadside stand.

* * * * *

The streamer is printed in two honey colors. A big container pours the golden sweet onto a piece of brown-crusted bread in the left corner. The message: "Mm-m, Just Arrived! New Season's HONEY, order today, use every day" is printed in attractive script lettering.

Order your supply today. Send 10 cents to the American Honey Institute, Madison 3, Wisconsin, for each single streamer. For just a quarter three will be mailed to you.

* * * * *

The month of August is the month of picnics. And picnics and honey go hand in hand. Tie your advertising campaign with picnics.

For what could be better for picnic sweetening than a jar of honey? There's no spilling problem with honey; it can be spooned into coffee, tea, or milk easily.

Honey flavor is tops in cooking and baking, too. Honey chocolate cake, honey baked beans, ham baked with a honey glaze, or honey cookies are perfect picnic fare.

Tell about honey for picnics in an advertisement in your local paper, in a radio spot, and by using posters at your roadside honey stand. And give your customers iced tea recipe cards and chocolate cake leaflets saying, "This is just the ticket for your next picnic" or "Here's a recipe for that family picnic you've been planning."

The American Honey Institute will send you 100 iced tea cards for a quarter. The four-page Honey of a Chocolate Cake leaflets cost just 60 cents for 100.

Make picnic time honey time in your community.

Simple Wax Rendering Equipment

By C. W. Barkey, Ellerson, Virginia

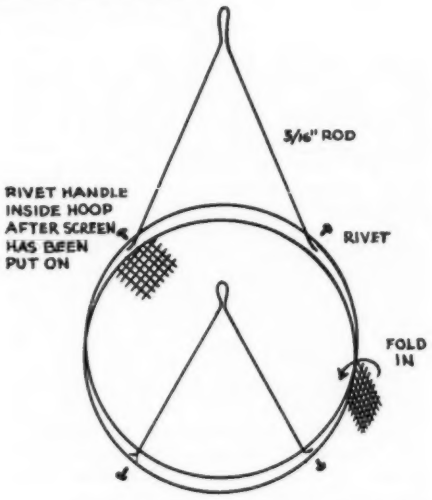
It seems to me that the small beekeeper is still at a loss to know how to render his wax.

For several years I have been using a device that I think is perfect, sanitary, and foolproof, and is just three pieces of equipment—two 50-pound straight wall lard tins and a sieve like the one illustrated and described as follows:

Make a hoop with metal such as comes off of V-crimp roofing to fit the inside of the lard can and rivet together. Then cut a piece of regular galvanized fly screen to cover one side of the hoop, allowing enough to come up and fold down inside the hoop like the head of a drum. When pushed down inside it will lock itself. Then use a fine wire such as raveled from screen and wrap the hoop all around with wraps an inch apart so that it will stay tight.

Before placing the screen on the hoop, bore four holes in it evenly spaced for the handles. The handles can be made of $\frac{5}{16}$ rod flattened at the ends for the rivets, or of flat metal such as the hoop is made of. The handles are made of one-piece metal, bent V-shaped. These handles should be as tall as the lard tin.

Once this is done you can fill one tin full of comb, cappings, or what have you, and then pour boiling water into the tin until about half full, then set on a flame and boil until it is thoroughly dissolved. Then set it off the flame for a few minutes and push the sieve into the tin, pushing down gently until the wax and water is all above, then pour off into the other tin



holding the handles down so the sediment cannot come out. After this I usually take the sieve out two different times and pour in two or three quarts of hot water and stir and boil and pour off the same as the first time.

After this set the can of wax and water on the flame and let it come to a boil, then set it off and let it cool. You will have a nice yellow cake of wax according to the amount of wax the combs contain.

Do not attempt to push the sieve in the can while the wax is boiling as it will not go down.

This outfit will last for years. Simply dry it and keep it in a dry place.

[Avoid having melted wax come in contact with fire for wax is quite inflammable.—Ed.]

Bees Protect Plane

Recently Australian apiarist F. J. Goodwin damaged his light aircraft in making a landing on a field. Goodwin protected the plane from inquisitive sightseers by releasing a swarm of bees.

When news spread in the community of the aircraft's mishap, hundreds of people hurried to the scene of the accident but Goodwin's foresight in releasing the bees kept would-be souvenir seekers at a safe distance.

Goodwin uses the plane to carry hives and for spotting out likely positions for his bees. When he locates a suitable site from the air, he lands in the nearest field and leaves a test hive to try out the locality.—Edward F. Perrault, Holyoke, Mass.

Second Glances

By C. M. Isaacson

Depleted soil is the answer to low honey yields, says Gorden Bell —at least to a large extent (page 401). There is much truth in this statement. Soil depletion is a serious problem for the whole nation, beekeepers included. We all of us have seen that clover stands seem to look less thrifty year after year in many localities as the soil has been used without rebuilding. Beekeepers can well evangelize this as well as legume planting alone. But I might mention one other factor seriously affecting honey yields from clover in Northern Minnesota—insect enemies. Weevils have made it next to impossible to secure stands in many places and left remaining ones weakened and thin. Local weather conditions—principally cool weather spells during the bloom period, have cut yields also. But here again the factor of short bloom time may well come from depleted soil.

Beekeepers have a fraternity the world over, as evidence the many visitors to Mr. Buckley's out-of-the-way English honey farm (page 403). His whole account is of much interest and the pictures impress one with the neatness and order of his apiaries and work. And as he says it is good that there is a place where all the older customs—yes, and living—have not disappeared. We have too much hurry and strain in our modern life.

Bee sting therapy is a much-disputed question (page 407). The effectiveness of its use in the treatment of arthritis and various forms of rheumatism has been both commended and condemned just as vigorously, so it is well to have Mr. Guyton's report of actual experiments. Two facts seem to be prominent in the results he mentions—that bee stings **can** give real relief in many cases, and that the problem of the patient developing sensitivity in extreme form is a big drawback. It is to be hoped that more careful work such as this will be done with this subject.

Yes, honey removal by the bees can be quite effective but of no help to the beekeeper, as Llewellyn Chapman found out (page 410). If he could have taken his super into a building with some provision for bee escape he would have fared better.

Names can be deceiving, it is true; and Allen Latham's case as far as the "wax moth" goes is convincing (page 411). "Pollen moth" would seem to tell a more correct story of its life development and work. It is of course true that wax alone is subject to little damage through this insect—most beekeepers have stored foundation over periods of several years without it being touched. Light-colored combs are also damaged seldom or very little, as I have quite often seen in a super or hive body left too long in the summer.

Labor savers are needed in any apiary. The elevator described and pictured in Mr. Smellie's article should make extracted honey production a much less back-breaking work (page 412). Several beekeepers hereabouts have tried hydraulically-operated ramp loaders on the backs of their trucks. They are a real convenience—especially when many bees must be moved.

Fun with Bees might well be the title of Lester Bratton's words beginning on page 416, especially seeing that his misadventures were accepted in such a good-humored fashion. But to be serious and confirm some points you have already learned through experience, Mr. Bratton, by all means start out your packages in one hive body—they sometimes have a hard enough task keeping their brood warm anyway. And if you have to choose between a smoker and a veil in working bees, take the smoker. I use no veil over half the time but always have the smoker handy, or else!

Work in experiment stations such as that done at the University of Wisconsin is of especial value for the very reason that the average beekeeper cannot afford and is not equipped, either physically or by training, to carry on such experiments. Even though the value is not always apparent immediately, the long range benefits have helped the industry in many, many ways. Methods developed can not always be used in exact form, but adaptations can be and are used over wide territories (page 418).

(Continued on page 517)

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A True Bear Story

By H. F. Kerr, The Pas, Manitoba, Canada

This big fellow did a lot of damage before he was finally killed.

Bears have become very plentiful in this district because there is no market for the hide and no bounty. That is not good for bees. I had 16 colonies 11 miles out from town. One day the man who owned the land came in to see me. He was all excited. A bear had destroyed three hives. I went out and straightened up the hives the best I could. The bear came back that night to the same hives he had fed on before. I got an Indian to camp there that night with a rifle. It was very dark so on toward morning he figured it was no use staying so he walked home. He should have stayed as the bear came after he left. The fourth night the same thing took place. The hives were rather scattered and I figured an electric fence would not work so I undertook to move the hives. What a chore! We moved them, honey and all, as a unit and did all the work at night. Because of the weight the staples weakened and bees got out as we drove over rough roads to Mile 20.

All was well there for a month. Then we got word of more bear damage. To make a long story short, we spent eight nights there trying to get the bear or bears. I had 14 different people out there to try their luck. They included sportsmen, trappers, game wardens, and Indians. One night a young lad and a half-breed went up to spend the night. I got the story in the morning. The bear came and they were right close. Each shot three times. One had a shotgun and the other a rifle. The bear got away but one of the undisturbed hives had a charge of buckshot through it and the farmer nearby was plenty sore because a rifle bullet went through the fleshy part of his best horse's leg. The horse's leg healed perfectly.

Well, the next night Mrs. Kerr and I drove up with two other lads. One was the game warden and the other a good trapper. Mrs. Kerr and I remained until 10 p.m., arranging to pick up the lads in the morning. About a half-hour after we left the bear came. It was dark again, and cold. The boys were taking turns standing outside the cabin listening. The bear came and made quite a racket as he knocked over the hive. (He had been at this particular colony five time.) The boys made their way to where he was gorging himself. They thought that the noise of the bear made it difficult for the bear to hear them. So they got right up close and let go with their guns. He was a big bear for a black. He weighed 440 pounds on the town scales. After that no bears came although there were more in the district.

On one of the trips four of us were in the party. We all picked likely spots where we thought we could pick off the bear as he crossed the river. I sat right below one of the hives that had been damaged, on the shore of the river. I had my pump gun loaded with buckshot. The other lads were farther up the river about 50 yards. Just at early dusk I heard a .22 shot. Then I heard the lads shooting rifles and shotguns. I saw nothing as some bushes were in line of vision. The bear got away. I heard the story right afterwards from the boys. Apparently the farmer who had his horse shot was getting a pail of water from the river. He did not know that we were all there with guns. He saw the bear meandering along the bank going towards the bees. He rushed to his house and got his .22. By this time the bear had crossed the river to the bank opposite us. He was walking toward us on this bank. The farmer shot and hit the bear but a .22 bullet just made him mad. When the boys heard the shot they knew they had no chance but opened up anyway and of course they were too far to hit a running bear. Had that farmer not been at the river to get the water the bear would have passed within ten feet of where I was crouched.

But it is such a swell place for bees and honey that I'm going back there next year in spite of the bears I got close to a ton of honey from the 16 hives in spite of the bear damage. The bears totally destroyed seven hives and slightly damaged six others. Fortunately they continued with hives they had visited the night before. I shall try an electric fence next year, and hope to do away with the visits of bear.

Most Winter Losses are Due to Starvation

By E. S. Miller, Valparaiso, Indiana

A colony with the brood in the top story in fall seldom winters well whether in a two-story, three-story, or four-story hive. The reason is that in winter bees work up rather than sideways or down and may starve with an abundance of honey at the sides or below the cluster.

During late summer and fall, so long as brood rearing continues, the queen should be confined to the lower story. Any honey brought in will then be stored immediately above the brood where it will be accessible during the winter months. With 50 pounds or more in the food chamber and a considerable amount of honey and pollen below, there will be little danger of starvation.

It is true, as claimed, that in case of a fall flow, honey stored in a two-story brood chamber may force the queen down, provided there are no supers. But if supers of drawn combs are added the queen usually will occupy the second story, leaving the lower section unoccupied. Then, when the supers are removed, the colony is very apt to be left without adequate or accessible winter food. There is no advantage in wintering in a three-story hive with the lower story unoccupied. It would be better removed.

The above applies to colonies operated for extracted honey. Comb honey colonies usually, though not always, store enough honey in a single hive body to last them through the winter, the cluster in late fall occupying the lower portion of the combs and working upwards through the winter.

I find that in Northern Indiana strong colonies with adequate stores properly placed and with top and bottom ventilation and a good windbreak winter successfully on their summer stands without wrapping or packing. Weak colonies should be made strong by uniting before rather than after the fall flow.

[Mr. Miller, a beekeeper of many years' experience, is right. In two-story wintering the upper story, commonly called the food chamber, should be well filled in the fall, in addition to some honey in the lower chamber. A strong colony in such a hive well provided with stores, properly placed, is not likely to starve during winter or early spring.—Ed.]

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Honey Price Support Program

United States Department of Agriculture
Production and Marketing Administration
Title 6 — Agricultural Credit
Chapter IV — Production and Marketing Administration and Commodity Credit Corporation, Department of Agriculture.
(1950 Honey Bulletin 1)
Part 624 — Honey

SUBPART — 1950 PRICE SUPPORT PROGRAM

This bulletin states the terms and conditions with respect to operations under the 1950 Honey Price Support Program formulated by the Commodity Credit Corporation (hereinafter referred to as "CCC") and the Production and Marketing Administration (hereinafter referred to as "PMA".) Under this program prices will be supported only by means of purchases of eligible honey from eligible packers, in accordance with this bulletin.

ss 624.101 **Administration:** The program will be administered by the appropriate branches and commodity offices of PMA under the general direction and supervision of the President, CCC. The program will be carried out through purchases by CCC of eligible honey from packers, including cooperative marketing associations of producers, operating under contracts with CCC, which packers in turn purchase honey for their accounts from beekeepers. A list of eligible packers to whom beekeepers may sell honey at not less than the applicable support price will be made available to PMA County Committees.

Contracts whereby packers may dispose of eligible honey to CCC will be made through the Fruit and Vegetable Branch, Production and Marketing Administration, United States Department of Agriculture, Washington 25, D. C. Copies of contract forms will be available at the PMA Commodity Offices listed in ss 624.-111.

ss 624.102 **Availability.** (a) **Area.** Purchases under this program will be made from eligible packers located in the continental United States.

(b.) **Time.** Contracts relative to this program must be executed by packers not later than August 15, 1950. Purchases under such contracts will be made by CCC on the basis of Intentions to Deliver, which may be filed by packers within 10 days prior to the following dates: September 1, 1950, December 1, 1950, and March 1, 1951. Notices of Acceptance will be issued as soon as practicable after each of the above dates.

ss 624.103 **Eligible packers.** An eligible packer shall be any individual or legal entity having ownership of, or provision for, facilities to purchase, receive, handle, process, pack, and store honey who enters into a contract with the CCC relative to such functions and to the payment within a reasonable time of not less than the applicable support price for all eligible honey acquired. In the case of cooperative associations, advance payments to beekeepers delivering honey plus credits to appropriate beekeepers' pool accounts shall not be less than the approved support price for the season.

ss 624.104 **Eligible Honey.** Eligible honey shall be:

(a) Honey produced in the continental United States.

(b) Honey which, when acquired by packers, is in clean, sound containers of a standard capacity of 60 pounds or greater, and is equivalent to or better than U. S. Grade B of the "United States Standards for Grades of Extracted Honey" effective March 15, 1943: **except that,** honey with a moisture content in excess of 18.6 percent stipulated in said Grade B but not in excess of 20.0 percent shall be eligible on the basis of the price differential set forth in ss 624.109, reflecting the cost of reducing the moisture content to the prescribed level.

ss 624.105 **Purchases from packers:** CCC will purchase from eligible packers all eligible honey tendered to CCC by packers pursuant to the terms and conditions of the packer contract, except that honey having a moisture content in excess of 18.6 percent but not in excess of 20.0 percent when purchased by packers must be reduced to not more than 18.6 percent before tender to CCC, unless otherwise agreed to between packer and CCC. Eligible honey will be purchased by CCC for delivery fob cars or trucks at packers' usual shipping points.

ss 624.106 **Determination of grade:** When purchased by a contracting packer, the grade of honey need not be determined so long as the packer pays not less than the applicable support price as specified in ss 624.109. All honey for which a contracting packer pays less than support price, as specified in ss 624.109 (a) and (b), and honey which has a moisture content of 18.6 to 20.0 percent, must be covered by an inspection certificate. If honey is inspected when purchased by the packer, and determined to be eligible, the cost of such inspection shall be borne by the beekeeper, and if paid by the packer on behalf of the beekeeper may be deducted from the price which the packer pays the beekeeper.

(b) The grade shall be determined for each lot of honey tendered by packer to CCC. Packer shall pay the cost of inspection of honey so tendered and, for honey accepted by CCC, shall be reimbursed for such cost.

(c) All determinations of grade hereunder shall be by an inspection performed by a representative of the Processed Products, Standardization and Inspection Division, Fruit and Vegetable Branch, Production and Marketing Administration, United States Department of Agriculture.

ss 624.107 **Minimum quantity.** Purchases by CCC of eligible honey from packers shall be limited to quantities of not less than 36,000 pounds net or such other quantity as may be moved at the minimum carlot rate in effect for rail shipment.

ss 624.108 **Settlement.** (a) Packers delivering eligible honey to CCC will submit applications for payment to, and be paid through, the PMA Commodity Office of the area in which the packer's billing office is located. Applications for payment will be prepared and submitted in accordance with billing information furnished by the PMA Commodity Office.

(b) Honey offered by packers to CCC shall be free and clear of all liens and encumbrances, or if any lien or encumbrance exists a proper waiver shall be submitted with the applications for payment. No claims or payments arising under the contract with CCC may be as-

signed except in accordance with the Assignment of Claims Act of 1940.

ss 624.109 **Support price.** The price for eligible honey purchased by packers under contract with CCC shall be not less than the following:

(a) For honey of U.S. Grade B or better delivered to packer's plant in clean, sound containers of a standard capacity of not less than 60 pounds or greater than 150 pounds, nine (9) cents per pound. (Grade B is honey as clean as that which has been strained through standard bolting cloth of 23 meshes per inch.)

(b) For honey of U.S. Grade B or better delivered to packer's plant in clean, sound containers, including barrels, with a standard capacity greater than 150 pounds, eight and three-fourths (8.75) cents per pound.

(c) For honey meeting specifications for U.S. Grade B or better with the exception of excess moisture content, in clean, sound containers with a standard capacity of not less than 60 pounds, the amounts specified in (a) and (b) above less one-hundredth (0.01) cent per pound for each one-tenth (0.10) of one percent by which the moisture content is greater than 18.6 percent but not greater than 20.0 percent. (Honey in excess of 20 percent moisture content is not eligible for price support.)

ss 624.110 **Prices to packers.** Eligible honey will be purchased from packers under contract with CCC at a price which will not exceed the support price plus such packer costs as CCC may determine to be applicable to such honey, and which will be set forth in the packer contract.

ss 624.111 **PMA Commodity Offices.** The PMA Commodity Offices and the areas served by them are shown below:

Atlanta 3, Georgia., 449 West Peachtree Street, N.E.: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

Chicago 5, Illinois, 623 South Wabash Avenue: Illinois, Indiana, Iowa, Michigan, Ohio.

Dallas 2, Texas: 1114 Commerce Street: Arkansas, Louisiana, New Mexico, Oklahoma, Texas.

Kansas City 6, Missouri: Fidelity Building, 911 Walnut Street: Colorado, Kansas, Missouri, Nebraska, Wyoming.

Minneapolis 1, Minnesota, Gamble Skogmo Building, 15 North 8th Street: Minnesota, Montana, North Dakota, South Dakota, Wisconsin.

New York 4, New York, 67 Broad Street: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia.

Portland 5, Oregon, 515 Southwest Tenth Avenue: Idaho, Oregon, Washington.

San Francisco 2, California, 335 Fell Street: Arizona, California, Nevada, Utah.

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United States Department of Agriculture
Production and Marketing Administration
Washington 25, D. C.

July 6, 1950

HONEY PRICE SUPPORT FOR 1950 SEASON

Notice to Packers:

The Honey Price Support Program for 1950 Season, as set forth in the foregoing Bulletin 1, is designed to support the price of honey through packers, including cooperatives, who enter into appropriate contracts with Commodity Credit Corporation. By this method honey can be expected to move freely to commercial outlets, but CCC will remove, on the dates designated in Section 624.102 (b) in 1950 Bulletin 1, the honey which cannot be readily absorbed in the usual markets.

Contracting packers must pay beekeepers delivering eligible extracted honey to their plants or warehouses not less than the applicable prices outlined in Section 624.109 of the 1950 Honey Bulletin 1.

Honey for which a contracting packer pays the applicable support price need not be inspected. In instances in which honey is inspected to determine its moisture content or its grade, the cost of such inspection is to be borne by the beekeeper, and if paid by the packer may be deducted by him from the price paid for such honey. All honey for which a contracting packer pays less than the applicable support price, and honey which has a moisture content of 18.6 to 20.0 percent, must be covered by an inspection certificate.

Honey which is not to be carried for CCC by the packer will be covered by separate storage contracts arranged for by the Transportation and Warehousing Divisions of the area PMA Commodity Offices. All other contracts with packers, at least during the initial phases of the program, will be handled by the Fruit and Vegetable Branch in Washington, D. C.

Packers who desire to participate in the Honey Price Support Program should send 4 signed copies of the contract direct to E. M. Graham, U.S. Department of Agriculture, Fruit and Vegetable Branch, PMA, Washington 25, D. C. Copies of the contract can be obtained from the PMA Commodity Offices listed in ss 624.111 of 1950 Honey Bulletin 1, or from Mr. Graham.

No application for a contract should be submitted until the packer has read and understands the terms and conditions of the contract and the 1950 Honey Bulletin 1. If any additional information is desired, communicate with the appropriate PMA area Commodity Office or E. M. Graham, U. S. Department of Agriculture, Washington 25, D. C. — E. M. Graham, Chief, Specialty Crops Division, Fruit and Vegetable Branch.

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Subchapter B — Export and Diversion Programs

Part 524 — Honey

Subpart B — Honey Export Program

Marketing Season 1950

Amendment No. 1

1. ss 524.133 is hereby amended to read as follows:

ss 524.133 **Period for export sales.** Sales contracts for the exportation of honey under this program must be entered into within one of the following periods. (1) On or after the effective date hereof and prior to 12 o'clock midnight e.s.t., June 30, 1950, or (2) on or after July 1, 1950, and prior to 12 o'clock midnight e.s.t., December 31, 1950. Separate funds are available in each of these periods under this program.

Approval may be given to any application based on a sales contract entered into pursuant to the issuance of the press release dated March 30, 1950, entitled "U. S. Department of Agriculture to Assist in Expanding Honey Outlets", and prior to May 9, 1950, notwithstanding provisions to the contrary in Paragraphs 524.132 and 524.145 of this Public Announcement, if (1) an application is filed prior to July 31, 1950, with the Authorized Representative

(Continued on page 512)

The Toxicity of EPN Insecticide to Honey Bees

By Dr. J. E. Eckert, Apiculturist, University of California

EPN 300 has the formidable looking chemical name of ethyl p-nitrophenyl thionobenzenephosphonate. It is said to be only about a fourth to one-eighth as toxic to warm-blooded animals as other phosphorus compounds used in the control of mites. However, it is still a dangerous insecticide and is not to be classed with the relatively safe compounds like pyrethrum and methoxychlor. It has given excellent kill of such mites as the European red, Pacific, Bryobia (brown or clover mite) Williamette, two-spotted, citrus, and red spider. Furthermore, some investigators report that it is effective against pests other than the mites on field crops and tree fruits. So much for the information contained in the News Release of the E. I. DuPont Company.

What effect does it have on honey bees? The commercial use of EPN Insecticide is too new to permit extensive observations as to its toxicity to honey bees under field conditions. However, based on my preliminary laboratory tests, it has a high toxicity to bees as a stomach poison and as a contact insecticide. It did not exhibit much fumigative action, as is the case with parathion. The speed of action as a contact insecticide is such as to favor the assumption that a large portion of the bees gathering con taminated pollen will be able to return to their hives **before** succumbing to its effects. This would make the insecticide more dangerous to bees and other pollinating insects than such poisons as DDT, BHC, and chlordane which kill largely in the field before they can return to their hives. In this regard EPN Insecticide would approximate closely the effect of parathion which the bees can carry back to their hives in sufficient quantities to kill many of the hive bees and some of the brood.

It takes considerable time to determine the average amount of a poison which will kill 50 percent of the bees to which it is fed. This amount is called the L/D-50 dose. This can be determined only by feeding a number of bees known quantities of the poison being tested, and then giving the bees access to sugar syrup while keeping them under favorable conditions of temperature and humidity. In the present tests the bees were fed at laboratory temperatures which ranged between 70 and 80 F. and then were placed in a control cabinet set for 78 F. The humidity was controlled by a 12-inch square pan of water with a fan to circulate the air in the cabinet. The bees were placed in individual queen cages which were provided with a queen cell-cup into which a 20 percent sugar syrup was placed for food after each bee received the desired amount of poison.

Bees which were fed 0.02cc of syrup containing of EPN (Technical) 0.12 mmg. (a mmg. is one-millionth of a gram) became abnormal within 30 minutes or in a period of time which would have enabled some of them to have returned to their hives. Fifty percent of the bees died over a period of 24 hours and those which survived lived for several days, as did the check bees fed only on sugar syrup.

Bees which were exposed to only minimum quantities of EPN 300 dust for 5 minutes and then were transferred to an uncontaminated cage became incapacitated in from 20 to 42 minutes and were moribund within an hour. In this test only 0.02 gram of the 27 percent dust was placed on a piece of paraffin paper in a 3 x 4 cage before approximately 50 bees were placed in the cage. After the bees were removed, additional lots of bees were added to the same cage, and all were killed within short periods of time. The paper was then removed and the cage washed in running tap water, dried, and an additional lot of bees were inserted. They, too, died in from 12 to 24 hours, indicating that the material will kill bees which come in contact with only minute amounts of it.

We have yet to determine the residual action of the material to honey bees and this can be done best under field conditions. In some cases it is said to have had an effective residual action for six weeks against certain types of mites.

Its overall effect on bees when applied as a dust or as a spray has yet to be learned under field con-

(Continued on page 516)

My Short Course Dividends

By Charlotte B. Waldron, Malvern, Pennsylvania

Last August 15, 1949, I enrolled at the Pennsylvania State College for the five-day Beekeeping Short Course for several reasons:

First, it seemed that almost every member of our Chester County Beekeepers' Association had attended, returning with such enthusiastic reports that I became curious. Second, my husband is a second-generation beekeeper and as 1949 was only my third year of beekeeping, ignorance, especially in comb honey production, was not bliss—I needed to learn something. Third, we were planning to expand our honey sales from roadside selling to wholesaling to grocers and road stands in the rich consuming area around Philadelphia. We needed information and suggestions as to fancy packaging and merchandising. Fourth, we owned some unusually good (we thought) comb honey strains of bees and wanted to know how best to breed them.

At the first morning session I was relieved to learn that I was not the most inexperienced specimen present—one classmate who kept bees had never been able to find the queens. (He learned.) Another had only a couple of hives with no inhabitants as yet. I was much impressed by the fact that a real live bee inspector was taking the course.

"To him that hath shall be given." The more you know about bees and honey, the more you are able to absorb from the Course, which we soon discovered was a splendidly organized, concentrated job of teaching and demonstrating in classroom, bee yards, and laboratory. For beginners and amateurs, the Course is simply a godsend, saving them from pitfalls and errors common among new beekeepers. A few in this group were repeating the Course, realizing that they had acquired enough experience since their first attendance to reap much more benefit than they could as novices.

But the Course's value for advanced and professional beekeepers cannot be too strongly emphasized. My experienced husband was surprised and well pleased when I returned with a sure-fire recipe for preventing wax moth damage to comb honey sections; when he learned that Prof. Edwin J. Anderson has developed a strain of bees that requires no queen excluder, and is working on a strain which caps comb honey with a strong and beautiful wax pattern; when he read the explicit directions for making and packing creamed honey; when he saw the improved technique for grafting larvae with tools we had made in the laboratory.

From George Rea those interested in renting bees for pollination received necessary and helpful information. I know I gathered some excellent hints from him for selling extracted honey. Another Pennsylvania beemaster who spoke—Harry Beaver — generously gave us the kind of information that rarely appears in bee books and journals. Such hints and advice popped up continually in the various talks and discussions, to be seized upon gratefully by those able to profit by them.

I had made out a list of questions, adding to them from time to time in class, checking off each as it was answered during the Course, and waylaying speakers between classes for missing answers. These, copied in a notebook, came in handy for later home reference.

In addition to all this, other fruits were added: the beauty of the State College Campus, the clean, inexpensive room which the registrar's office had reserved as a routine service; the luscious ice cream and tangy full milk cheeses, dairy-student made and sold at most moderate prices in the little lunchroom in the dairy building (our classes were considerately dismissed early enough for us to beat the noon rush there); the change in the short course students from the first day's reserve and shyness to friendliness and fun-sharing; the honey-identification tasting test; the class party the last evening, with refreshments.

If you want to learn to make beeswax candles and molds, dyed or natural; if bee diseases worry you; if swarming is a problem; if you wish to know the latest techniques in queen breeding; if you want to see and use various kinds of honey house equipment; if you want to spend a wonderful FULL week—take a Short Course. It will be a long and gratifying memory.

Just News

The North Carolina State Beekeepers' Association is planning to hold its summer meeting and field day on Friday, August 18, at Wildwood Farm, the home of W. H. Arthur, located about five miles west of Brevard. Those who can will bring a picnic lunch and Mr. Arthur will furnish cold drinks. This gives promise of being one of our most important meetings. It is in "The Land of the Sky" during vacation time and a good program is being arranged with formal talks by leading beekeeping authorities who were on the program at South Carolina's Farm and Home Week. Also, first-hand observation and study will be given the home apiary that is considered a real model one. This is an open public meeting and visitors will be extended a hearty welcome. All correspondence relative to the meeting, including literature and samples, should be addressed to J. A. Glazener, County Agent, Brevard, N. C.—Frank Meacham.

* * * * *

The Pennsylvania State Beekeepers Association will hold its 47th Annual Field Day and picnic Saturday, August 19 at Bowman's Hill Park, Washington's Crossing, Buck's County, Pennsylvania. The program will begin at 10:00 in the morning. There will be a basket lunch at noon and games and contests will follow the noon lunch with a tour of the Wild Flower Preserve at 3:00 o'clock. Those who will appear on the program are: H. B. Kirk, State Inspector; Prof. E. J. Anderson, State College; W. W. Clarke, Extension Apiarist; Geo. H. Rea, Reynoldsville; A. R. Dean, Pittsburgh; and Jas. I. Hambleton, Beltsville, Maryland. Washington's Crossing is on State Highway 32 between Yardley and New Hope on the west bank of the Delaware River.

* * * * *

The Short Course at Pennsylvania State College will begin Monday, August 21 and end on Friday evening, the 25th. The equipment available for teaching the Course is fairly complete. It includes both a commercial and a backlot extracting plant, queen rearing equipment and equipment for artificial insemination, rollers for making comb foundation, seven apiaries with 140 colonies of bees which are run for both comb and extracted honey. The expenses include room and board and a $5.00 registration fee for beekeepers from Pennsylvania and $10.00 for those from other states. This charge covers expenses of conducting the Course, insurance, etc. Beekeepers from out of the state are welcome as well as those from Pennsylvania. We would like to have registrations early by mail but no one will be turned away if he registers after he arrives at State College on the 21st. Do not send any money—the fees are paid after you arrive there. To register write to A. L. Beam, Dairy Building, State College, Pennsylvania.

* * * * *

The Vermont Beekeepers' Annual Picnic Meeting will be held Saturday, August 26, at 10 a.m. at the residence of Clarence Hathorn in Barnard on Route 12 between Woodstock and Bethel. His home is right near Beautiful Silver Lake surrounded by forest. In addition to a chance to go swimming or fishing, we will have on our program Dr. William Coggshall of Cornell who will tell us something about von Frisch's wonderful experiments on the language of the bees. Also at this time final plans for our exhibit at Eastern States will be made. All those on committees for these exhibits and demonstrations will report on their progress. All beekeepers will bring samples of their honey to put on display for the contest. All beekeepers, their families, and their friends from near and far are invited to attend. Remember to bring your lunch.—Chas. Mraz, Sec.

* * * * *

The 14th International Beekeeping Congress will be held September 3 to 8, 1951, at Leamington Spa in Warwickshire, England. More details later.

* * * * *

The Illinois Civil Service Commission has announced examinations for Apiary Inspectors I and II. These examinations offer Illinois residents opportunities for employment in the public service. Salaries range from $1980 to $3564. Final filing date is August 18. Applications and ad-

J. L. Byer

J. L. Byer of Markham, Ontario, for many years a contributor to our North, East, West, and South Department in Gleanings, passed away on June 16 at the age of 77 years. Two years ago Mr. Byer suffered a stroke and has since been confined to his bed.

Mr. Byer was well known through his writings appearing in bee journals. For many years he operated a series of outapiaries in different counties. In fact, he was one of the first commercial honey producers in the province.

Mr. Byer was a regular attendant of the annual provincial bee conventions in Toronto and he will be missed by a host of friends and his immediate family. Fortunately, his two sons who worked with him will carry on.

ditional information may be obtained from the Civil Service Commission, 501 Armory Building, Springfield, Illinois.

* * * * *

The Third Annual Beekeepers' Short Course will be held at the University of Virginia, Charlottesville, September 7 and 8. The Albemarle Beekeepers' Association is acting as host for the group, and the Virginia Agricultural Extension Service is arranging and planning the program. Dorm space will be available at $1.25 per night. Registration fee is $2.

* * * * *

Western New York Meeting—The summer meeting of the Western New York Beekeepers' Association will be held at Akron, New York, on August 5. An interesting program has been planned with a basket picnic at noon.—Geo. Norris, Stafford, New York.

* * * * *

The Crawford County (Kansas) Beekeepers' Association held its July meeting at the home of M. F. Potter, 215 W. Buffalo, Girard, on July 2 at 2 pm. Three new members were received and much interest was shown in lively discussion of general beekeeping topics. The next meeting will be held on August 6 at 2 pm at the farm of Wm. Holland eight miles southwest of Girard. All beekeepers are invited to attend.—R. S. Snare, Sec.

* * * * *

Ohio Beekeepers' Summer Meeting

The meeting held in Findlay, Ohio, on July 19 and 20 was well attended. Elmer Smith, Vice-President, after calling the meeting to order, asked key men from different counties over the state for reports on crop conditions. Some counties are favored with fairly good crops while others are not so good. Apparently differences are due largely to weather and soil conditions.

Sweet clover has again made its appearance in some counties and at the time of the meeting it appeared to be in prime condition.

Seymour Bailey, State Apiarist of Ohio, reported on good work being done by four apiary inspectors, one in each corner of the state. Sixteen new county inspectors have been added and 41,053 colonies were inspected up to July 1. A little over 2 percent of colonies were found diseased.

Don F. Barrett, State Apiarist for Michigan, told about the advantages of the Michigan State registration law which went into effect in June 1935. All bees are listed and each beekeeper pays a registration fee. The revenue, which amounts to $9,000 a year, goes into the inspection fund. Registration simplifies the work of inspectors in that apiaries are listed and easily found. Registration does not drive out the small beekeeper.

Prof. T. H. Park, Extension Entomologist at Ohio State University, gave the following reasons for the reduction of legume seed crops:

(1) Deficiency of pollination insects; (2) increase of injurious insects to crops, and; (3) lime deficiency in the soil. The red clover average seed crop for 1949 was only 7/10 bushel per acre.

At the business meeting it was decided to divide the state into nine districts, each to have a representative to constitute an executive committee to facilitate the handling of business. This appears to be a step in the right direction.

Lawrence ("Buddy") Pritchard,

(Continued on page 516)

Buy and Sell Here

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 15c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

NEW CROP of honey shipped daily from producer in Florida. Pure orange blossom, 5 lbs., $2.25; Pure Florida cut comb honey, 5-lb. pail, $2.75. No C.O.D. orders. All shipments prepaid. E. R. Raley, Daytona Beach, Box 1610, Florida.

HONEY, white to water white clover, heated and strained, ready for bottling. 15c per lb. in 60-lb. cans, fob. Lose Brothers, 206 E. Jefferson St., Louisville, Ky.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 1.

LIGHT AMBER honey in 60's, 10 and 11c. Sample 15c. Joseph Fekel, Rt. 4, Vineland, N. J.

Orange blossom, Florida tupelo, white clover, and buckwheat honey in one or five gallon cans. Pure maple syrup in gallon cans. Alexander Company, 819 Reynolds Rd., Toledo, O.

NEW CROP clover honey in 60-lb. cans. Can or ton lots. E. L. Gamble, Adams, Rt. 1, N. Y. Phone 52577, Henderson, N. Y.

CLOVER COMB HONEY. Millard Coggshall, Groton, New York.

FANCY GEORGIA tupelo gallberry chunk comb, 2½ and 5 pound square jars. Valdosta Honey Co., Valdosta, Ga.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on COD terms except where the buyer has thoroughly established his credit with the seller.

WANTED—Honey and wax, any quantity. Send samples and prices. Alexander Company, 819 Reynolds Road, Toledo 7, Ohio.

CASH FOR YOUR HONEY — Light extracted or comb. Regular trade send sample. 60-lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles 21, Calif.

WANTED — White and amber honey. Any amount. D. F. Treap, 316 Keenan Ave., Cuyahoga Falls, Ohio.

WANTED—EXTRACTED HONEY—Clover or light amber. C. H. Denny, Rt. 4, Ravenna, Ohio.

HONEY AND WAX WANTED — Mail sample. Advise quantity. BRYANT & SAWYER, 2425 Hunter St., Los Angeles 21, Calif.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 N. High St., Columbus 2, Ohio.

WANTED—Comb honey and extracted honey, large or small amounts. Send price list and samples. R. A. Raley, Box 2263, Daytona Beach, Fla.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

WANTED—Extracted honey, all grades, also comb honey. 1500 60's, emptys, used, for sale, 15c each. Honeymoon Products Co., 39 E. Henry St., River Rouge 18, Mich.

COMB HONEY WANTED—Section and cut-comb. Advise grade, quantity, and how packed. F. H. Hauck, P. O. Box 84, Kew Gardens, N. Y. Bank reference furnished on request.

FOR SALE

QUEENBEE PAINTING OUTFIT, $1.00; colony records, 10-15c postpaid. Southwick Apiaries, Waban, Mass.

WE CARRY a full line of ROOT QUALITY Bee Supplies. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

FOR SALE — Write for large free Bee Supply Catalog. We manufacture bee hives, foundation, tanks, and extractors. Listing many items not found in other catalogs. Walter T. Kelley Co., Paducah, Ky.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

The only comb foundation plant in the East. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, R.D. 3, Auburn, N. Y.

SIMPLEX TRAP clips queens without handling, $1.00 postpaid. Instant Frame Spacers — eight-nine, specify size, $1.50 postpaid. Free circulars. George Leys, 36 Jackson St., New Rochelle, N. Y.

YOUR WAX WORKED into medium brood foundation, 23c pound; 100 pounds, $19.00. Medium brood foundation for sale at 65c pound. Fred Peterson, Alden, Iowa.

CLEAN UP AFB WITH SULFA. 25 tablets, 50c; 50, $1.00; 100, $1.50; 1000, $7.00. Write for big 64-page catalog listing many items not found in other catalogs. WALTER T. KELLEY CO., Paducah, Ky.

FIND wild bee trees with my outfit. Grover, Bristol, Vermont.

WHY DON'T YOU? Use a smoker fuel that does not upset your colony, stop them from work all day, and sting you half to death each time you go into them. Order here, and you have the answer. Nothing like. Makes a cool, pleasant smoke that leaves the bees liking it. Why, they don't even stop work and every one can work with them with pleasure. Only $2.00 for enough to last the average beekeeping season. O. K. Anderson, Box 193, Coffee Springs, Ala.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

GOOD ITALIAN QUEENS, 60c each. D. W. HOWELL, Shellman, Georgia.

CAUCASIANS—Booking orders for 1951. Lewis & Tillery Bee Co., Route 1, Box 280, Greenville, Ala.

GOLDEN QUEENS, 90c airmail. Write for quantity prices. O. E. Brown, Route 1, Asheboro, N. C.

NORTHERN BRED ITALIAN QUEENS —For production, $1.00 each. Ten-up, 90c. Shirl Baker, Rodney, Michigan.

FOR SALE—50 supered colonies bees, crop, move at convenience. Inspected. Abraity's, Sergeantsville, New Jersey.

THREE BANDED ITALIAN bees and queens, 2 lb. with queen, $3.00; 3 lb. with queen, $4.00; select untested queens, 1 to 25, 90c each; 25-up, 75c each. Alamance Bee Co., Graham, N. C.

CAUCASIAN bees and queens, 2 lb. and queen, $3.00 each; 3 lb. with queen, $4.00; Select untested queens, 1 to 25, 90c; 25-up, 75c. Prompt delivery. Black River Apiaries, Rt. 1, Currie, N. C.

PACKAGE BEES headed by mountain Gray Caucasians or leather colored Italian queens. Write for prices. Twin Bee Co-op., 3616 Caucasian Circle, Tampa, Florida.

BREWER'S LINE BRED Caucasian queens, 1-99, $1.00; 100 and up, 75c. Member ABBA. Brewer Brothers Apiaries, 3616 Caucasian Circle, Tampa 9, Florida.

GOLDEN ITALIAN BEES AND QUEENS —Very gentle to work with. 2 lb. with queen, $3.00 each; 3 lb. with queen, $4.00. Select untested queens, 1 to 25, 90c; 25-up, 75c. Carolina Bee Farm, Graham, N. C.

REAL PETS—Brown's non-stinging bees. Good producers. $2 queen. Brown's Apiary, Cape May Court House, N. J.

PRITCHARD'S NORTHERN QUEENS. Bains breeding stock, $1.00 each. Ludlow Falls, Ohio.

YANCEY HUSTLER QUEENS—3-Band Italians. Bred for honey production. 75c each; $8.00 per dozen. Caney Valley Apiaries, 2500 Nichols, Bay City, Texas.

HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

Michigan Headquarters for

Root QUALITY

Bee Supplies

Complete Line of Bee Supplies and Honey Containers
Prompt Service

Michigan Bee and Farm Supply

510 N. Cedar St.
Box 7 Lansing, Michigan

G. B. Lewis Wooden Goods!

Dadant's World Famous Crimp Wired Foundation. — Their 85 years' experience is your safeguard. Catalogue on request.

Dotson's Apiaries

3059 W. Roxboro Rd., NE
ATLANTA, GEORGIA

HONEY WANTED

Carloads and less than carloads. Mail sample and best prices in all grades.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

Requeen with Hollopeter's

HARDY Italians, now at their best during Buckwheat honey flow. Young laying queens, 1-4, $1.00 each; 5-9, 90c each; 10-24, 80c each; 25-99, 75c each. 100-up, 70c each.

Our 50th year with bees, 40th as commercial queen breeders.

White Pine Bee Farms, Rockton, Pa.

High Quality
QUEENS
75c each
by Airmail
Carlus T. Harper
New Brockton, Ala.

HONEY PRICE SUPPORT PROGRAM

(Continued from page 505)

of the Secretary, (2) the sale and exportation are otherwise in conformity with this Public Announcement, and (3) evidence satisfactory to the Authorized Representative of the Secretary is submitted by the exporter that such sale was induced by the press release referred to above.

2. ss 524.138 is hereby amended to read as follows.

ss 524.138 **Minimum grade and inspection.** Honey exported under this offer shall be equal to or better than U.S. Grade B, except that, honey with a moisture content in excess of 18.6 percent, but not in excess of 20.0 percent, shall, if agreed to between the exporter and buyer, be eligible on the basis of the payment differential set forth in ss 524.136 reflecting the cost of reducing the moisture content to 18.6 percent. Such honey shall be inspected not more than 10 calendar days prior to shipment from a packing plant or warehouse to the port of exportation. The inspection shall be performed by an inspector of the Processed Products Standardization and Inspection Division, United States Department of Agriculture.. The cost of the inspection and issuance of certificates shall be borne by the exporter.

CCC may, in its discretion, waive compliance on the part of the applicant with regard to the place of inspection specified above. To be effective such waiver must be in writing and signed by the Director.

Effective date. ss 524.133, as amended herein, shall be effective as of 12:01 am, e.s.t., May 18, 1950; ss 524.138, as amended herein, shall be effective as of 12:01 am, e.s.t., July 14, 1950.

(Sec. 32, 49 Stat. 774, as amended; 7 U.S.C. 612c)

Dated this 18th day of July, 1950.

S. R. SMITH
Authorized Representative of
the Secretary of Agriculture

200 colonies bees. Warren Church, Rt. 2, Box 459, Watsonville, Calif.

FOR SALE: 5 acres, Calhoun County, fruit trees, 1½-acre vineyard, house, honey house, tractor, sprayer. Adolph Land, Newell, Iowa.

CENTRAL FLORIDA Orange honey locations, honey house 22 x 36 ft.; Duplex 26 x 48 ft. One apartment furnished. Ideal set-up for owner with hired family or as part-time rental. No bees or equipment. $8500.00 complete. Pictures on request. Melvin Myers, Fruitland Park, Florida.

93 10-frame, 2-story colonies bees with surplus honey and equipment, located near Columbus. Make offer. Address: "Bees", 1841 Cleveland Ave., Columbus, Ohio.

FOR SALE—350 colonies bees with full equipment and good locations. For particulars write John Holzberlein, Grand Valley, Colo.

FOR SALE—1100 colonies of bees with lots of equipment in Willamette Valley of Oregon. Extracting equipment and two trucks. Three pollination rentals and two honey crops per year. Age and health reason for selling. Terms to responsible buyer. B-Good Apiary, Newberg, Oregon.

EXTRACTORS FOR SALE

Root 3-frame extractor, some 8-frame hive bodies, comb honey supers. Cheap. Albert G. Hann, Glen Gardner, New Jersey.

Root 45-frame Radial Extractor. John Ellis, Newfield Rd., Torrington, Conn.

MISCELLANEOUS

BEES FOR SALE OR LEASE—Will sell part or complete units fit your requirements. You can purchase part unit lease additional quantities round out your needs. Option to buy later. Proven territory: Idaho, Wyoming, Montana, Nebraska—sweet clover, alfalfa areas. Our processing plant and marketing program assures outlet honey produced from bees purchased or leased. Bright future—low cost operations—Our 45 years production experience ready assist you getting started. Right prices, reasonable terms available. BRADSHAW & SONS, Wendell, Idaho, Largest Individual Producer-Packer in U.S.

LITTER of 8 Beagle pups, black, white and tan. Whelped July 6th. Field Champion Gray's Linesman Breeding. $25 each at 8 weeks. 6 for sale, keeping 2. Will mature at 13 inches—long-eared beauties. Alexander Co., 819 Reynolds Rd., Toledo, Ohio.

HELP WANTED

HONEY SALESMAN WANTED — Good income possible — protected territory — Write Box No. 650, care of Gleanings, Medina, Ohio.

SUPPLIES

ATTENTION BEEKEEPERS IN MINNESOTA and adjacent states. We offer a real service on Lewis-Dadant Supplies, honey containers, and labels at a price saving to you. Top market prices paid for extracted honey and beeswax. HONEY SALES COMPANY, 1806-08 NO. WASHINGTON AVE., MINNEAPOLIS, MINN.

SEEDS

SEEDS OF HONEY PLANTS. Ask for free catalogue. Pellett Gardens, Atlantic, Iowa

WANTED

IMPORTANT Distributor wants to establish dependable sources of supply for different types of bulk honey. Write particulars. Box 750, Gleanings, Medina, Ohio.

MAGAZINES

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.50; two years, $2.25; three years, $3.00. In combination with Gleanings in Bee Culture, $2.75. 211 Affleck Bldg., Winnipeg, Canada.

KNOW interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh, Dist Naini Tal, U.P, India, or obtainable from them. Subs. Rs7/—or 10 shillings or 2.25 dollars per annum. Single copy Rs¼ s. 1/9 or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

THE BEE WORLD—The leading journal of Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including subscription to the paper 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer. P. O. Box 3306, Cape Town, South Africa.

DO YOU find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription—$1.00. Hotel Cactus, San Angelo, Texas.

TOO LATE TO CLASSIFY

HONEY WANTED—Send samples and prices please. The Cloverbloom Honey Co., General Delivery, Shrewsbury, Mass.

JENSEN Says —

Look to Your Queens

A good queen in every colony this fall will assure better wintering, and faster build-up next spring. It is crop insurance of first magnitude. With price support for honey now an actuality, the bottom has now been reached and we should all be able to look ahead more optimistically. Beekeeping is definitely again on the upswing.

"Magnolia State" 3-Banded Italians. Our Old Reliable Stock. 1-24, 90c 25-50, 80c; 51 and up, 75c each.

— — — — —

Jensen Reared Dadant Starline D.R. Hybrids. Full 3-Way Genuine Hybrids, not just daughters of hybrid mothers mated to any old kind of drones. Instrumentally inseminated and tested queens only are used for breeding purposes of both queens and drones; this is IMPORTANT.

Starline Hybrids, Disease Resistant, Isolation Bred Italians. 1-24, $1.15; 25-50, $1.05; 51 and up, $1.00 each.

Clipped and Marked Free
Air Mailed if expedient

Jensen's Apiaries
Macon, Miss.

A TALK TO BEGINNERS

(Continued from page 485)

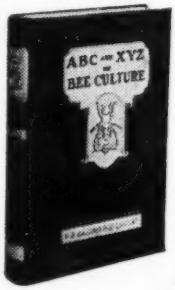
ing long cold spells, the cluster consumes honey in the combs directly above and if there is not plenty of honey above the cluster the bees may reach the top bars of the food chamber and being unable to move sidewise onto the combs of honey at the outside of the cluster or the side of the hive, will become stranded and die of starvation.

In areas where there is not a real heavy fall flow it will pay beekeepers to use a queen excluder under each food chamber during the late summer and fall months in order that brood rearing may be confined to the bottom story and that the combs in the food chamber may be well filled. If there is not a sufficiently heavy flow during the fall to fill these combs, feed sugar syrup to make up the food deficiency. The queen excluders should not be taken off until sometime in October in the latitude of the Great Lakes. Be sure, however, to remove them, as the queen, being unable to pass through the excluder, might become stranded outside of the cluster as it moves upward during the winter.

Beekeepers who are in areas where buckwheat is grown should be sure to have the white honey removed before bees begin working buckwheat. It takes only a small amount of buckwheat to color and flavor white honey. Buckwheat is usually in bloom in early August.

Keep in mind, then, having a good queen in each colony, ample comb space for the storage of fall honey, good combs in brood chambers, and a well-filled food chamber for winter.

XUM



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The 1950 Edition is Not Just a Book on Bees

IT IS ALSO:

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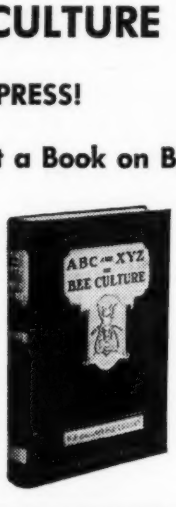

All in One Grand Book

630 Illustrations 720 Pages

$3.75 Postpaid

The A. I. Root Co. Medina, O.

DO YOU KNOW—you can get quality queens guaranteed second to none at a price you can afford? Price does not indicate quality. Find out for yourself. Hybrid queens of Government stock or Regular light colored Italians.

50c each — Airmailed, clipped

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BETTER BRED QUEENS THREE BANDED ITALIANS

Watch those failing queens and poor colonies. Be sure and replace them with our Better Bred Stock and watch them pay off.

QUEENS — — 50c Each

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OLDEST BEE JOURNAL IN THE ENGLISH LANGUAGE

Keep up on markets, practices, scientific data, regulations, and plant possibilities.

1 year, $2.00, U. S. and Canada

Foreign postage, 50c a year extra

AMERICAN BEE JOURNAL

Hamilton, Illinois

Our OWN New crop of No. 1 Michigan clover honey should be ready for the market this month, July. If you buy honey, be sure and get on our mailing list at once. You surely want the best honey you can buy. Address E. D. Townsend & Sons, Northstar, Michigan. Where the best honey comes from.

Bring Your Dreams Down to Earth
Buy U. S. Savings Bonds

HOW NOT TO DO IT

(Continued from page 471)

—except to stand on the shelf where a pail of good honey should have stood and give everybody the opinion that the buying of honey is something that just isn't done.

What should one do with his capping melter honey? If one has a large plant the cappings drier can not help being a good investment. If the cappings must be melted, an effort should be made to keep the dark wax and the light wax separate. It is only the honey melted from dark wax that is seriously darkened and seriously damaged in flavor. The honey melted from light wax can be mixed with one's best honey without fear of making enough difference to its grade to be discernible to anything but expert examination.

Even the honey melted from dark wax can be of comparatively good quality if the sludge or slumgum—whatever you call it (really the old cocoons inside the brood cells) is scraped away as fast as it is made. On the other hand, if it is allowed to accumulate on the steam pipes, all the honey that subsequently passes through it will lose something of quality and acquire something of darkness and poor flavor.

If the final percentage of honey that is, and must be, dark is liable to destroy the market for honey for years to come, as it did in the instance observed, better throw it away, bury it, or feed it to the cows in silage than to sell it or give it away to people.

* * * * *

Healthy Italian Bees & Queens
Write for 1950 Prices
Georgia Bee & Honey Apiaries
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KOEHNEN'S
Package Bees and Queens
For Quality and Service
KOEHNEN'S APIARIES
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Mack's Queens
(They Speak for Themselves)
Big Hardy Northern Bred Italians—Chuck full of Quality and we have them in Quantities. All cells are started and finished in Big Powerful Queenright Colonies, Nature's Way. For in Nature there is no such thing as QUEENLESS BEES. We know you will like them for there is better than a third of a century of breeding to back them up. That's why we say "They Speak for Themselves".
Price $1.00 each postpaid
Fully Guaranteed
Herman McConnell & Sons
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CAUCASIANS
CARNIOLANS
Hardy, prolific, rapid build-up, best of workers. Caucasians have the longest tongue of any race. Both races build beautiful white combs. BOTH ARE THE GENTLEST OF ALL RACES OF BEES. Gentleness is safest in towns, near neighbors, or near streets or highways. Gentleness saves time, sweat, patience, and work. Discount on quantity orders. Ask. Begin preparing for 1951 season this month. August is a good month to requeen.
Prices, Both Races:
Untested Queens .....$1.00 each
Tested Queens ..... 1.75 each
By Air Mail
Albert G. Hann
Glen Gardner, New Jersey

Queens Our Specialty
Italian, Caucasian, and Carniolans
Three Isolated Mating Yards to Prevent Mixing Breeds
Italian queens, 1-10, $0.90
11-49, $0.85 50-up, $0.80
After May 15th, $0.50 each
Carniolan, the most gentle and good producers, $1.20 each
Caucasian, very gentle and produce beautiful comb honey, $.90
All queens shipped by Air Mail and guaranteed to please
Walter D. Leverette Apiaries
Box 364 Fort Pierce, Florida

Five Gallon Tanks

Made from heavy creamery tin, with ground valve faucet, inclined bottom for easy draining Price $3.95 ea. delivered. Money refunded if not satisfied.

M. Y. S. Company
Bainbridge, N. Y.

TOXICITY OF EPN

(Continued from page 506)

ditions. But judging from the disastrous experiences with parathion when applied to Ladino clover or to alfalfa run for seed, I would advise beekeepers to keep their bees out of areas in which parathion or EPN 300 are applied to legumes **in bloom** for a period of not less than one week. By "areas" I mean any location within the flying range of bees of fields treated with parathion or EPN 300. EPN 300 would appear to be much safer than parathion because of its lack of fumigative action. It may be possible to treat a legume field with EPN Insecticide for red spider or mites **before** the plants come into bloom or to keep the bees out of the field for at least one week after it has been treated while in bloom. It would also appear to be less injurious to bees if applied as a spray than when applied as a dust.

* * * * *

JUST NEWS

(Continued from page 509)

grandson of the late veteran queen breeder, Mel Pritchard of Medina, gave an illuminating talk on rearing queens. Gentle bees are desirable. It is essential to have drones of the right kind available throughout the season. Buddy introduces virgins instead of cells to mating nuclei. He can cull out undesirable virgins, whereas such culling is impossible when cells are used.

One of the best sessions was the last in which Chas. A. Reese conducted a panel discussion intended primarily for beginners. Six men and two women beekeepers were called to the platform to discuss the **why, where and how of beekeeping.** Questions were then asked from the floor. A lively and profitable discussion was enjoyed by all. It was interesting to learn how some of our leading commercial beekeepers got started in the business. When Clyde Wheeler was asked how he kept bees, he replied, "Very sloppy".

The Banquet, held in the Findlay College Dining Hall, was a huge success.

Jere Frazer, lately returned from Iowa where he spent five years away from Ohio, appeared in his usual good form as toastmaster for the occasion. Jere must sit up nights thinking up the foolishness he gets off at such gatherings. Anyway, we all need more good laughs during these serious times.

C. M. Ferguson, Director of the Agricultural College Extension Service at Ohio State University, gave a wonderfully fine talk which was followed by pictures.

There appeared to be a tone of optimism running throughout the entire meeting. Crops are better than usual. Prices are not what we would wish but at least they are holding firm due to price support. The value of bees for pollination is being stressed as never before. Yes, our industry is still alive and likely to forge ahead in the future. Agriculture must have bees and bees must have honey and pollen plants.

* * * * *

The Empire State Honey Producers' Association's annual summer picnic will be held at Taugannock Falls State Park on August 12. This is a beautiful spot on the west shore of Cayuga Lake on Route 89 about two miles east of Trumansburg, New York and about nine miles north of Ithaca. Prizes will be given for labor-saving equipment for beekeeping. Prominent speakers will be on the program but no long speeches allowed. Bring your entire family and enjoy a picnic lunch. You can't afford to miss this meeting.

* * * * *

The Indiana Summer Bee Meeting will be held at Purdue University on August 3. Dr. C. L. Farrar of U. S. Bee Culture Laboratory at Madison, Wisconsin, will be the out-of-state speaker. Prof. R. T. Everly of Purdue will speak on a pollination project. Dr. B. Elwood Montgomery of Purdue will talk on beekeeping in New Zealand.

(Continued on next page)

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- ECONOMY JARS
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- FLAT TYPE JARS
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- PLASTIC SERVERS
- 5 POUND TIN PAILS
- 10 POUND TIN PAILS
- 60 POUND TIN CANS

Order from your nearby Root Dealer

The A. I. Root Company Medina, Ohio

JUST NEWS

(Continued from previous page)

The regular outdoor meeting of the **Middlesex County Beekeepers' Association** was held on July 29 at the home and apiaries of Charles L. Helmboldt at Westford, Massachusetts. A fine meeting was enjoyed by members and guests. Our August 26th meeting will be held at the home of one of our new members, A. K. Tinkham, 11 Poplar St., Belmont, Massachusetts. Members are asked to bring basket lunches, plates for ice cream, spoons, and cups for coffee.—John H. Furber, Sec.-Treas.

* * * * *

The Westchester County Beekeepers' Association will hold its monthly meeting at the home of the past president, Alfred F. Roth, 126 Oak Street, Portchester, New York, on Sunday, August 20 at 2:30 p.m. Several of Mr. Roth's hives will be opened for inspection and demonstration. This promises to be a very interesting and educational meeting. Several guest speakers are also expected to be on hand to address the group. Anyone interested in bee culture is cordially invited to attend.—A. M. Barnes, Publicity.

SECOND GLANCES

(Continued from page 501)

A million pounds of honey is a lot to be used in one product (page 453). If Post's Sugar Crisp can continue to find public acceptance and thereby cause other similar products to be introduced, a big market for honey can ensue. And considerable credit can go to the Honey Institute for constantly pushing honey and keeping it before the attention of all possible users such as this. Let's remember that.

Thief River Falls, Minnesota.

Protect Your Future. Buy Your Extra Savings Bonds Now.

Look for this Sign
When You Want
QUALITY AT LOW COST

Trade Mk. Reg.
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KELLEY — "The Bee Man"

QUEENS

Improved Hybrid Cross

These bees appear to be light, 3-banded Italians and are gentle and easy to handle and stay on the combs. However, they are of greatly improved quality and lay frame after frame of solid brood.

Young Improved Laying Queens by Prepaid Air Mail **75c Each**

Lots of 25 and up, 65c Each

Walter T. Kelley Co., Box 210, Paducah, Ky.

QUEENS Garon's High Producing Stock QUEENS
to Overcome Low Honey Prices

PRICES

On Our 3-Banded Italian Quality Queens		On Garon Reared Dadant Starline Hybrid Disease Resistant Queens	
1-24	60c	1-24	$1.05
25-99	55	25-99	1.00
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Queens Mailed Prepaid, Regular or Air Mail, Painted and (or) Clipped at No Extra Charges.

Garon Bee Company Donaldsonville, La.

BESSONET'S ITALIAN QUEENS

We compete with QUALITY and not PRICE. You must decide the type of queens you will use in your hives. Our Italians are the result of a lifetime of experience and are produced by the best scientific means known.

Prices: 1-24, 80c each 25-up, 75c each, air mailed

Bessonet Bee Company Donaldsonville, La.

Package Bees
Italian Queens
For 1950

Packages with Queens:

	2 lbs.	3 lbs.	4 lbs.	5 lbs.
1-99	$3.00	$3.90	$4.70	$5.30
100-up	2.75	3.75	4.40	5.00

Queens 90c each Airmail postpaid —clipped on request.
No better quality at any price
Satisfaction guaranteed

Geo. A. Hummer & Sons
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Established 1892

QUEENS Untested .... $ .45
Tested ..... .90

2-lb. Pkg. with Queen	2.25
3-lb. Pkg. with Queen	3.00

— BRIGHT 3-BANDED ITALIANS —
Now ready for immediate shipment

Order NORMAN BROS. bees and queens and get the old fashion dollar's worth in superior quality plus quick service. Safe arrival, satisfaction guaranteed. Health certificate furnished. Package bees FOB Express. If wanted shipped by parcel post, Add Postage.

Norman Bros. Apiaries
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Little & Moore Apiaries

Originally
LITTLE'S APIARIES
The John M. Davis Strain
GUARANTEED TO PLEASE
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April 1st to June 1st:
1 to 10, $1.20 each
10 to 100, $1.10 each
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1 to 10, $1.00 each
10-100, 90c each

Little & Moore Apiaries
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MOORE'S STRAIN

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view. By careful selection during all these years I have succeeded in producing a strain of three-banded leather colored Italian bees known as Moore's strain of Italians which has won a world-wide reputation for honey gathering, hardiness, gentleness, etc.

Send for descriptive circular and read reports from those who have tried them. Untested queens, $1.00 each; 12 or more, 75c each.

J. P. Moore, Falmouth, Ky.
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Former Address: Morgan, Kentucky
Safe arrival and satisfaction guaranteed

QUEENS
Bright Three Banded Italians

If you need queens you need the very best, and that is just what we have. Let us prove it.

1, 75c; 50, 70c; 100, 65c each.
Tested Queens, $1.50
Breeders, $5.00
No cost for clipping

Taylor Apiaries
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40c Italian Queens

Quality and low cost is your first thought when ordering queens you get from

Farris Homan
Shannon, Miss.

Requeen with Three Way HYBRID Queens

These breeder queens are a cross of two lines developed by the Government in their breeding project and their virgins are mated to drones of our strain of bees.

We are pleased to offer you these queens and feel you cannot go wrong in requeening your honey producing colonies with them. We will keep our strain of Italian bees to supply those who do not care for the Hybrids.

When ordering Hybrids allow as much time as possible so your order can be filled without delay.

Prices

HYBRIDS Cross No. 1	Our Strain
1-10, ...$1.25 ea.	1-25, ...75c
11-25, ...1.15 ea.	26-up, ..65c
26-up, ...1.00 ea.	

"Satisfaction Guaranteed"

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York's Quality Bred Italians
$1.00 Each

The strain preferred by leading honey producers.

York Bee Company
Jesup, Georgia
(The Universal Apiaries)

Northern Bred Leather Colored Italian Queens
50c Each
Air Mail if distance justifies
Better equipped to give good service

Diemer Bee Co.
Rt. 2 Box 7 Liberty, Mo.

HARDY NORTHERN QUEENS
Tested Italian Queens, $1.00
Our Caucasians are sold out
Breeder Queens $5.00
R. L. LIVERMORE APIARIES
Collins, Ohio

XUM